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SIXTH INTERNATIONAL ASSEMBLY
of the
INTERNATIONAL COLLEGE OF SURGEONS
at the Invitation of the Italian Government
ROME, ITALY
May 16-24, 1948

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Vol. X *November-December, 1947* No. 6

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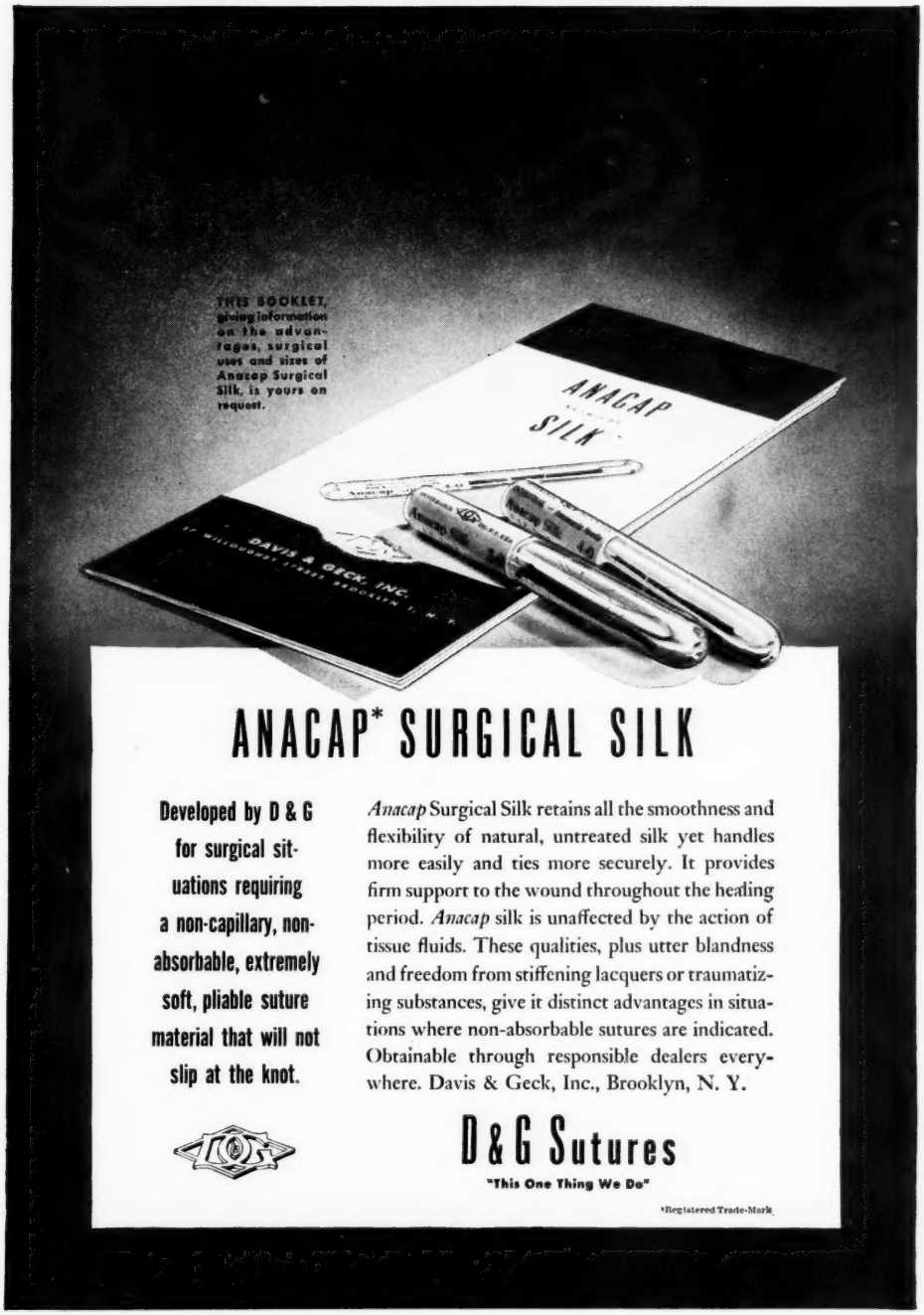
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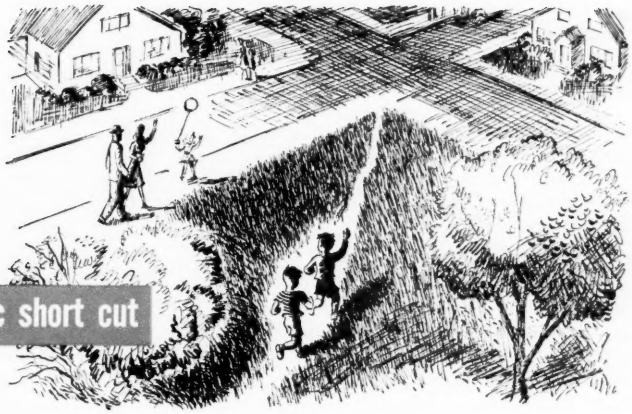

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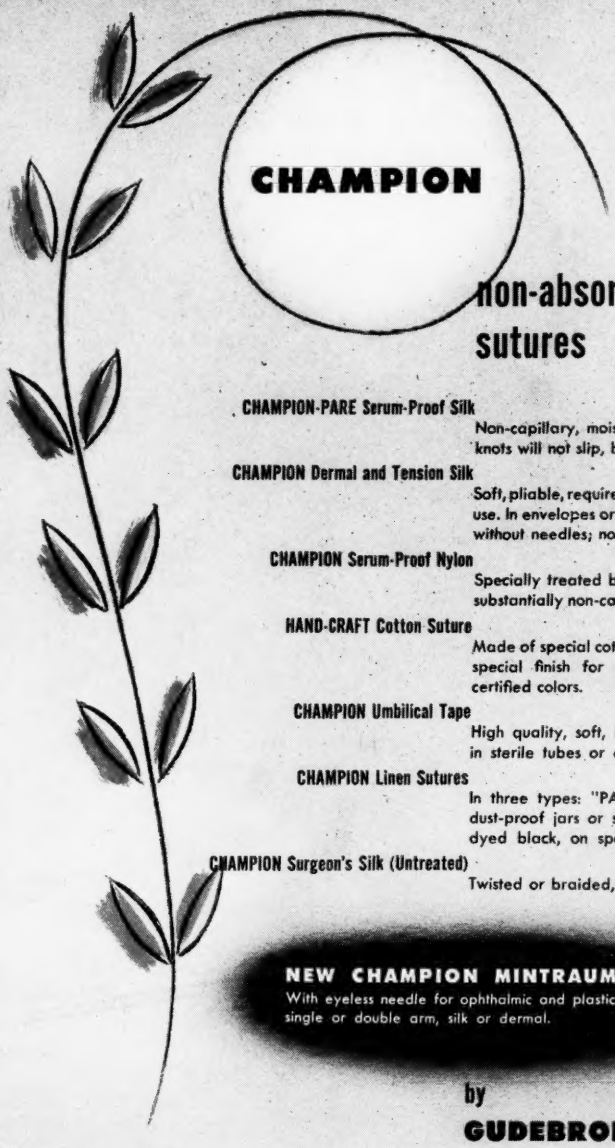

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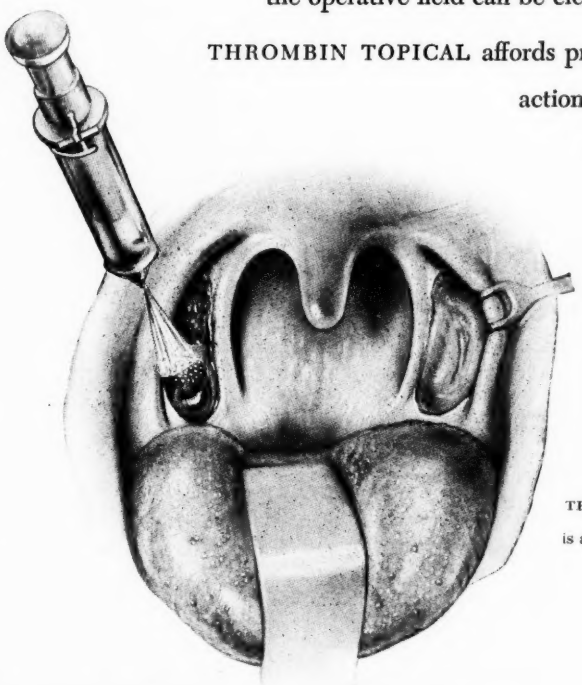

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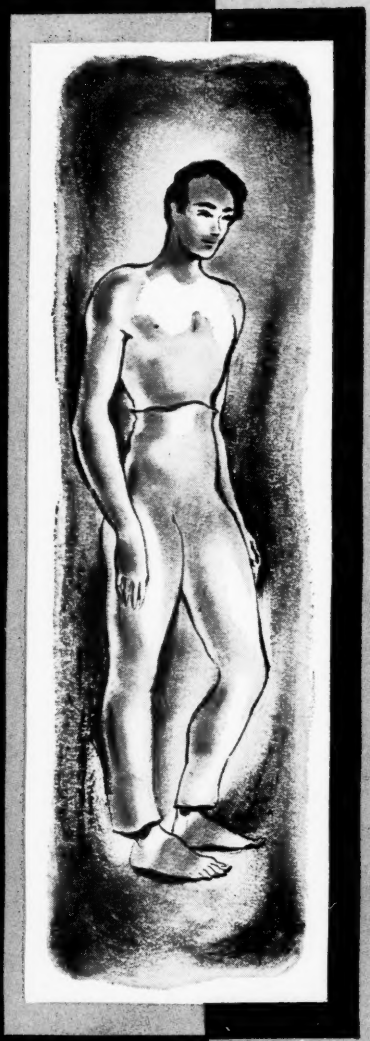

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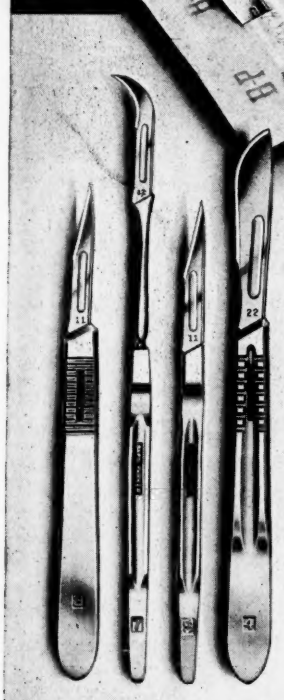

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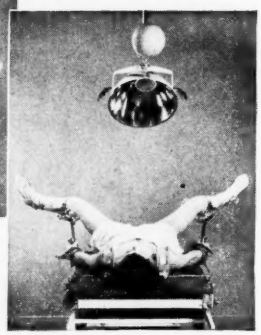

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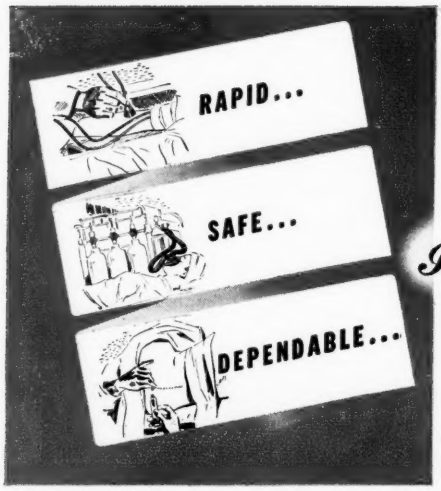

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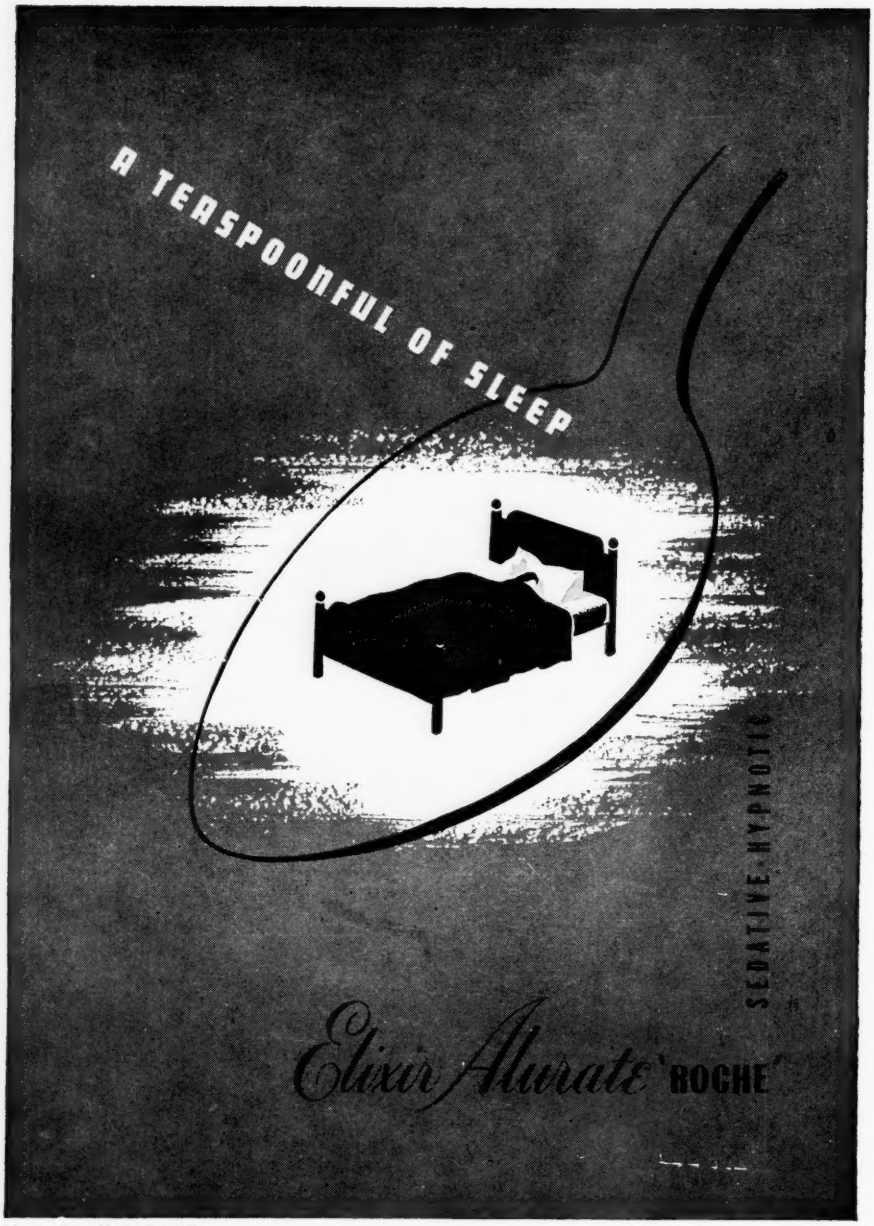

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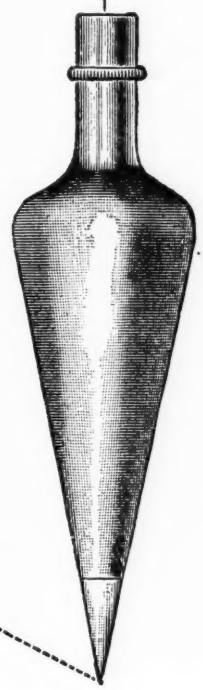

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Original Articles

Management of Vesical Dysfunction Following Abdominoperineal Proctosigmoidectomy

LOWRAIN E. McCREA, M.D., F.A.C.S., F.I.C.S.
PHILADELPHIA, PENNSYLVANIA

VESICAL dysfunction following resection of the sigmoid or rectum occurs too frequently to be an incidental complication. The surgical procedure of abdominoperineal proctosigmoidectomy is of relatively recent introduction. Few investigators have been able to portray their observations on the management of this serious complication. However, there are two schools of thought regarding the occurrence of paralytic vesical atony and its management. It is believed by some investigators that such vesical dysfunction is due to obstructive uropathy located at the vesical orifice. Other investigators, including the writer, believe that the vesical dysfunction is of neurogenic origin. Regardless of the cause, this complication presents one of the major problems of postoperative management of resection of the sigmoid and/or rectum.

The patients, on whom resection of the bowel has been done, return to normal living and to normal habits if the bladder can be made to function correctly. Vesical dysfunction presented as paralytic atony of the bladder does not occur in every instance in which abdominoperineal proctosigmoidectomy is performed. When vesical atony does occur, it is typical. There is complete urinary retention.

It is considered that such retention results from an interference with normal anatomic inter-relationships. It has long been an established fact that the anatomic inter-relationships between the rectosigmoid and the bladder are closely allied. These relationships may be considered as embryologic, vascular and neurologic. Although all are important, the neurologic inter-relationship is the most important from the standpoint of dysfunction.

EMBRYOLOGY

The close relationship between the lower urinary tract and the rectosigmoid is established in the early days of embryologic development. The anorectum and the bladder have a common origin in the fetal cloaca. About the seventh week, the urogenital septum in its descent separates the cloaca into the bladder anteriorly and the rectum posteriorly.

INNERVATION

There is a common development of nerves supplying the bladder and rectum, which is closely associated with the common origin of the anatomic structures. Disturbance of these nerves and their plexuses during surgery has been shown to cause alteration of vesical function in some instances. Ramifications of the nervous mechanism are widespread in the pelvis, are interlocking in their relative action and unfortunately, are only partially known or understood. It is known that trauma to or removal of certain nervous structures during abdominoperineal proctosigmoidectomy is followed by vesical dysfunction, which is interpreted as paralytic vesical atony. The innervation of the anorectum, genito-urinary and sigmoid areas of the body arises from three sources. These three sources are the somatic, sympathetic and parasympathetic. All are influenced by high centers in the cerebral hemispheres, hypothalamus and the spinal cord. It is a generally conceded fact that the act of urination is mainly reflex. A delicate nerve balance between the various nerve elements exists. Any imbalance produces vesical dysfunction.

SOMATIC INNERVATION

The somatic innervation is supplied through the pudendal nerve, usually derived from the second, third and fourth sacral nerves. It is through the pudendal nerve that the only volitional impulses of urination are carried.

One branch of the nerve supplies the external sphincter of the bladder, another branch, the inferior hemorrhoidal, supplies the anus and perineum. This is a mixed nerve, i.e., both motor and sensory. It contains sensory fibers from the posterior urethra, anus, rectum and perineum, as well as motor fibers from the same areas. It is believed that acute urinary retention following hemorrhoidectomy or anal surgery is due to a reflex contraction or spasm of the external vesical sphincter following trauma to the inferior hemorrhoidal nerve.

SYMPATHETIC INNERVATION

The sympathetic fibers which innervate the bladder and rectum are given off in the thoracic outflow from the first and second lumbar segments and possibly the twelfth thoracic segment. According to Learmonth, the sympathetic fibers to the bladder and other pelvic viscera are finally concentrated in a strand called the presacral nerve. This nerve receives, on each side, a considerable contribution from the first and second lumbar prevertebral sympathetic ganglions. The presacral nerve enters into communication with the ciliac, semilunar and aorticorenal ganglia. Small branches connect the presacral nerve to the third and fourth lumbar ganglions on each side. At the level of the promontory of the sacrum, it divides into the two hypogastric nerves which join the posterior, superior angles of the corresponding hypogastric ganglions (Fig. 1). The presacral nerve contains both afferent and efferent fibers, the latter being both preganglionic and postganglionic in type. I believe that due to the presence of possible circumventing communications of the presacral nerve fibers, interference with normal micturition cannot occur merely by removal of the presacral plexus. It is further believed that a collateral series of sympathetic fibers exists, which circumvent the presacral plexus and communicate directly with the pelvic viscera. Work is being conducted to clarify these points. The sympathetic fibers innervate the blood vessels, the trigone, including the muscles of Bell, the muscles of the crista of the urethra and the musculature of the rectum. By their normal action they cause contraction of the internal sphincter of the bladder.

PARASYMPATHETIC INNERVATION

The parasympathetic fibers arise from the second, third and possibly the fourth sacral segments of the spinal cord and run through the inferior hypogastric or pelvic plexus to the bladder musculature (Fig. 2).

Stimulation of the somatic nerves, either directly or indirectly, causes contraction of the external sphincter of the bladder. Stimulation of the sympathetic fibers causes relaxation of the smooth muscle of the bladder and rectum and a contraction of the vesical and anal sphincters. Stimulation of the parasympathetic nerves causes contraction of the smooth muscle of the bladder and rectum and relaxation of their respective sphincters.

During the surgical procedure of abdominoperineal proctosigmoidectomy it is a well established fact that definite injury to the sympathetic and parasympathetic nerves occurs by trauma or inadvertent removal of the inferior hypogastric or pelvic plexus (Fig. 3). The important inferior hypogastric or pelvic plexus, which contains both types of nerve fibers, normally lies beneath the peritoneum on either side of the ampulla of the rectum. Ashley and Anson, in quoting Davis, state that the plexus is bilaminar on each side. The medium lamina is a continuation of the hypogastric nerve. The lateral lamina is a prolongation of branches derived from the sacral nerves. The parasympathetic fibers of the second to fourth sacral segments, which are the nervi erigentes, join the two hypogastric nerves at a lower level in the pelvis. The two contributions, together with sympathetic fibers from the pelvic chain ganglions, form the pelvic plexus (Fig. 4). The parasympathetic fibers arising from the sacral roots are gathered together as the nervi erigentes. These nerves separate into three groups: the upper supplies the fundus of the bladder; the middle supplies the midportion of the bladder; the lower supplies the inferior aspect of the bladder, the vesical neck and the adjacent portion of the urethra. It is not unreasonable to assume that the subsequent action of the bladder following "proctosigmoidectomy"

may be due in part to the inadvertent trauma or severence to one or more of these respective groups. The sympathetic nerves supplying the bladder receive fibers from the ciliac, renal and the first four lumbar ganglions of the sympathetic chain. Further contributions are received from the last lumbar ganglions, from the inferior mesenteric plexus and from the superior hemorrhoidal nerve. Filaments are also received from the sacral sympathetic chain.

It might be argued that urinary retention following "proctosigmoidectomy" is the result of spinal anesthesia. Granted that a temporary vesical hypotonia develops immediately after the administration of spinal anesthesia, it can in no way be compared with the atonic condition of the bladder following abdominoperineal proctosigmoidectomy. Nor should the vesical dysfunction following the procedure be compared with that occurring in the presence of a spinal cord lesion. In the latter condition the bladder muscle is spastic due to lack of cerebral control. In vesical dysfunction following "proctosigmoidectomy" the spinal arc is interrupted in such a fashion that the disruption of the impulses occurs between the bladder and the spinal cord. The bladder is suddenly and completely thrown on its own ability to function. It fails to empty because of a total lack of innervation so vital to normal micturition. It is not the obstructive uropathy of prostatic hyperplasia that some investigators would lead us to believe. If this were true, it would be difficult to explain how urinary retention following "proctosigmoidectomy" occurs in women or in men below the "prostatic age" without visible or palpable evidence of benign, prostatic hyperplastic change. Granted, a certain percentage of individuals on whom bowel resection is done are within the "prostatic age" and undoubtedly have some median bar formation or lateral lobe hypertrophy. They did not have urinary retention before operation, but they exhibited urinary retention immediately after operation.

Beyond any question, malignancy of the sigmoid does occur in men of the prostatic age, and frequently these cases do develop urinary retention. There can be no disagreement with the management of urinary retention following "proctosigmoidectomy" when it is due to prostatic enlargement. It was observed that paralytic vesical atony occurred in 13 instances in 292 individuals requiring bowel resection. However, in none of these 13 cases was there visible or palpable evidence of such enlargement before or after operation. All patients had the benefit of preoperative cystometric reading; all were normal before operation; and all showed immediate alteration of the cystometrogram following operation. Inasmuch as retention was considered to be due to the loss of innervation, it has not been considered necessary to do transurethral resection to establish normal urination. It is to the apparent nerve imbalance that the management of vesical dysfunction following abdominoperineal proctosigmoidectomy has been and is being directed. The average age of the 292 cases subjected to proctosigmoidectomy was 53.7 years, although many were in the "prostatic decade" between 60 and 70 years of age.

It is believed that urinary retention following abdominoperineal proctosigmoidectomy is of neurogenic origin and is the result of trauma to or the removal of the inferior hypogastric or pelvic plexus. It is further believed that, if the bladder is properly managed through the phase of nerve shock and nerve regeneration, it will regain its equilibrium, rehabilitate itself and function normally. Apparently the entire sympathetic innervation of the bladder does not pass through the inferior hypogastric or pelvic plexus. If one were to examine closely a dissection of a human pelvis, it would be seen that there are many sympathetic nerve fibers that apparently circumvent the presacral plexus and do not enter into the formation of the pelvic plexus. It is therefore possible to assume that following the acute phase of nerve shock immediately after operation, a nerve imbalance is created. In the removal of the inferior hypogastric or pelvic plexus, one could say that a postganglionic sympathectomy on the sympathetic innervation and a preganglionic sympathectomy on the parasympathetic innervation were done. Since there is a rapid and well known tend-

ency toward regeneration in postganglionic sympathectomy and considerably less tendency in preganglionic sympathectomy, one could conclude that there would result an imbalance in autonomic innervation, and predominantly on the sympathetic side. According to Davis and to Meigs, the sympathetics behave as inhibitors to the musculature of the sigmoid, colon, rectum and bladder. They also cause contraction of the sphincter of the bladder.

Due to loss of innervation, it has not been considered necessary to do transurethral resection with destruction of the internal sphincter to establish normal urination. The internal vesical sphincter following the operation is unable to function and remains in a state of contraction due to predominating sympathetic influence. The detrusor is unable to contract due to a loss of parasympathetic innervation. It is to the acute phase of nerve shock and subsequent nerve imbalance that the management of vesical dysfunction following proctosigmoidectomy is directed.

Paralytic atony of the bladder does not occur in every instance, in which abdominoperineal proctosigmoidectomy is done, but its occurrence is unpredictable. The complication may be slight or extensive. It may be temporary or may continue for weeks or even months. Hill, Barnes and Courville believe that the nature and extent of injury to the nerve elements may vary considerably and have demonstrated vesical changes and alterations of the contour of the bladder by cystograms.

Experience in the management of this condition is based on the study of 505 cases of malignancy of the bowel seen on the Proctologic Service of Harry E. Bacon of Temple University Hospital. Of these 505 cases, 292 were subjected to abdominoperineal proctosigmoidectomy. There have been 13 instances of paralytic vesical atony in this series of 292 cases. Of these 13 cases, 10 are "living and well" and have returned to normal existence. One case had a recurrence of the malignant growth and died as result. This patient, a woman, voided normally following correction of the paralytic atony until her death. One patient, a man, committed suicide 13 months after operation. He developed an immediate postoperative psychosis, and the atonic condition of his bladder continued from the time of operation until death. The thirteenth case, a woman, is too recent to evaluate, but there are definite indications by the cystometer of a return to normal urination.

The physical findings of these patients with paralytic vesical atony are typical. They cannot urinate. Complete urinary retention with associated vesical distension occurs. The bladder musculature, suddenly deprived of stimulating nerve impulses by the interruption of the spinal arc, rapidly becomes an atonic, hapless reservoir. The walls of the bladder become thin; massive diverticulation occurs; and the viscus rapidly becomes a functionless, thin-walled, irregularly shaped, dilated, noncontractable reservoir, laden with infection and without normal function (Fig. 5). Urination of small amounts may occur, but massive amounts of residual urine are usually present. Other patients have complete urinary retention with over-flow incontinence. Paralytic vesical atony with diverticulation and the retention of urine rapidly develop following trauma or the inadvertent removal of the inferior hypogastric or pelvic plexus. The diverticula do not have the narrow orifices that are usually seen, but are rather large outpouchings of the bladder wall. This marked irregular diverticulation of the bladder may be assumed to be due to varying injuries to the parasympathetic nerve fibers, as no two cases present the same outline on the cystogram. Vesical atonia with diverticulation with chronic retention and infection occur, unless the retention is continuously relieved. Infection is invariably a factor in chronic retention. The greatest predisposing factor to infection in the urinary tract is stasis, regardless of its cause. Stasis is always evident by the presence of residual urine of long duration, or in chronic retention. The ischemia of the vesical mucosa during retention, either acute or chronic, is another factor which fosters infection. However, if the vesical mucosa is subjected to continued or repeated ischemia, regardless of its protective properties, those properties disappear and permit infection to occur.

It has been repeatedly demonstrated that during the surgical procedure of abdominoperineal proctosigmoidectomy, definite injury to the sympathetic or parasympathetic nerves occurs with trauma to, or the inadvertent removal of, the inferior hypogastric or pelvic plexus. With the removal of the plexus, the internal vesical sphincter is unable to function and remains in a state of contraction due to an apparent predominant sympathetic influence. The detrusor is unable to contract, and the bladder walls remain relaxed, becoming overdistended due to the apparent loss of the parasympathetic innervation. It may then be seen that the subsequent urinary retention is not the result of obstructive uropathy, but rather of the lack of innervation. If the retention were due to prostatic hyperplasia, its occurrence in women could not be explained. In this series of 13 cases of paralytic vesical atony, 7 occurred in men and 6 in women.

CYSTOMETRIC INTERPRETATION

Cystometry is one of the most efficient methods of demonstrating vesical activity following abdominoperineal proctosigmoidectomy. The cystometer used routinely is one described by me in 1938. It is a water manometer, calibrated in centimeters, is highly sensitive and the slightest variations are perceptible. The normal cystometrogram reveals a rise in the manometer tube to a point between 20–25 cm. with a total fill of 400 cc. The maximum voluntary pressure (MVP) shows a rise to a height of 70 cm. or more. The first desire to void (FDV) is at a point between 150–250 cc. (Fig. 6.) The hypotonic curve, so evident in paralytic vesical atony, is flat, and the MVP shows an elevation of a few centimeters in height (Fig. 7). The hypertonic curve, present in spinal cord lesions, shows a sharply rising curve with a limited capacity of the bladder (Fig. 8). The contrast between the three types of cystometrograms is obvious. All the cases, presenting an immediate postoperative paralytic vesical atony, revealed hypotonic curves on examination. The preoperative cystometric study revealed a normal curve before operation. It was following the observation of the first cases with paralytic vesical atony that routine preoperative and postoperative cystometric studies were inaugurated. The condition occurred in a woman immediately after operation. She did not portray, either physically or in her history, any urinary dysfunction before operation. It is now a considered routine, that every patient undergoing "proctosigmoidectomy" receives the benefit of preoperative and repeated postoperative cystometric determinations. The amount of residual urine is also of importance in the postoperative management. An individual showing a relatively normal cystometrogram, but having 4, 6 or 8 ounces of residual urine, should never be thrown on his or her own ability to urinate. The function of the bladder is yet impaired, and retention will follow the removal of the catheter. The catheter is never removed when the residual is greater than 2 ounces (60 cc.). Repeated observations are made of the amount of residual urine during convalescence. If the amount of residual increases, continuous catheter drainage is reinstituted, even though the cystometric reading is relatively normal.

INFECTION OF THE URINARY TRACT

Infection of the urinary tract, particularly the bladder, is a factor that should always be subjected to the most constant and rigid control. Urine cultures taken pre- and postoperatively have proven to be of great aid in management. Microscopic examination of urine quickly shows the presence or absence of pus cells. It remains for the culture to reveal the nature of the offending organism. In a survey of 90 unselected cases, on whom urine cultures were taken before operation, it was surprisingly found that 55 cases (61.1 per cent) revealed a positive growth on original culture. There were 28 instances (31.1 per cent), in which the original culture was negative and remained negative throughout the postoperative period. There were seven instances (7.7 per cent) in which the original culture was negative but became positive postoperatively. In the seven instances in which the cultures were primarily negative and which became positive postoperatively, the offending organism was Staphylococcus albus.

The bacteriologic findings of the 55 cases, which were primarily positive, were not unusual but revealed a wide variation of organisms. Streptococci were observed 15 times; staphylococci 15 times; B. coli 15 times; B. pyocyaneus 10 times; areobactor aerogenes 2 times; B. proteus once, and fungi on two occasions. In spite of the number of positive cultures, a limited few of the patients developed symptoms of cystitis necessitating specific treatment. In only four instances in the entire series of 292 cases have vesical symptoms necessitated specific therapy. In each of these four, a positive urine culture was returned preoperatively. Phthalylsulfathiazole (sulfathalidine), which is routinely administered during the preoperative preparation of the patient for bowel surgery, is apparently an important factor in controlling infection of the urinary tract. Poth and Ross have demonstrated sterile urine in 3–9 days following oral administration of the drug. It has been observed in the management of vesical dysfunction of long standing neurogenic origin, that B. proteus is the most common offending organism. The urine is always alkaline, and the deposition of urinary salts on the catheter is constant, causing considerable difficulty in maintaining free drainage. The neurogenic bladder following proctosigmoidectomy acts no differently against infection than does the neurogenic bladder accompanying spinal cord tumor or transverse myelitis. A constant guard is maintained of the pH of the urine. Any change in bacterial growth is determined by repeated urine culture. Urine with a pH of 4.5 or below is the best safeguard against invasion by B. proteus.

MANAGEMENT OF VESICAL DYSFUNCTION

The best method to preserve bladder musculature and to prevent vesical atony is to maintain a bladder at rest. Such rest should be complete and should be maintained until the bladder has regained its ability to function normally. An indwelling catheter properly introduced is preferred to cystotomy or to intermittent catheterization. Cystotomy requires a secondary operation with subsequent surgical care. Intermittent catheterization permits repeated but temporary retention. With retention of urine, ischemia of the bladder mucosa is inevitable. Ischemia of the vesical mucosa fosters infection which tends to lengthen the period of recovery. It has been and is a routine, that the bladder is put to rest by continuous catheter drainage. Paralytic vesical atony should be anticipated in every instance in which abdominoperineal proctosigmoidectomy is done, and steps should be taken to prevent such dysfunction before it ever occurs. To permit the bladder to become overdistended and remain so for varying periods of time, invariably produces an atonic state from which the organ may never recover. A routine of management of the bladder may be considered in three phases: the preoperative, the acute phase immediately after operation and the phase during possible nerve regeneration.

Preoperative Phase.—A urine culture is taken at the time cystoscopy and cystometry is done. This routine is followed during the period of preoperative preparation for bowel surgery. The urine culture reveals the presence or absence of infection of the urinary tract and the nature of the offending organism or organisms. If infection is present, specific treatment may be inaugurated during this period. Cystoscopy is of considerable aid in determining vesical involvement in the carcinomatous mass. If present, site and extent of the infiltration are revealed. Cystometry, done preoperatively, lays a foundation for further observance and management of vesical activity. Vesical hypotonia has been observed before proctosigmoidectomy had been performed. Although most patients have shown a normal cystometrogram, a certain percentage in this series exhibited vesical hypotonia before operation. It has been surprising to learn that these cases exhibiting vesical hypotonicity before operation had an infiltrating lesion at or in the immediate vicinity of the ampulla of the rectum, the site of the inferior hypogastric or pelvic plexus. These patients have frequently complained of difficulty in starting the urinary stream. Such a finding may be interpreted as a partial vesical hypotonia produced by the carcinomatous lesion compressing the element of pelvic plexus. Immediately before operation, an indwelling catheter is inserted into the bladder to insure the maintenance of a bladder at rest during the postoperative period.

Management of Acute Phase Immediately After Operation.—Continuous catheter drainage is maintained. The bladder is irrigated twice a day using boric solution. Urine cultures are taken on the fourth and tenth postoperative days, at the time cystometry is done, and an observation of vesical activity is made. The catheter is changed every seventh day as continuous vesical drainage is maintained, until the patient empties the bladder normally. If the patient is capable of exerting a maximum voluntary pressure of 70 cm. on the tenth day, as revealed by the cystometer, the catheter is removed, and the patient is instructed to void. If the patient voids, a catheter is reinserted immediately, and the presence or absence of residual urine is ascertained. If a residual of more than 60 cc. is present, the catheter is permitted to remain in situ until the bladder is capable of more complete emptying. If the patient is unable to void or if voiding is difficult, syntropan, 200 mg., given three times a day, is administered orally for its effect on decreasing the tone of the smooth muscles of the internal vesical sphincter.

Management During Phase of Possible Nerve Regeneration.—Repeated cystometric readings are taken after discharge from the hospital to determine the functioning ability of the detrusor. Syntropan is administered three times a day, and catheter drainage is maintained until normal voiding occurs, and the cystometrogram is shown to be within normal limits. Continuous catheter drainage is eliminated when a normal cystometrogram is revealed and the patient can void normally without residual. The patient is repeatedly reexamined, until it is certain that bladder function is normal.

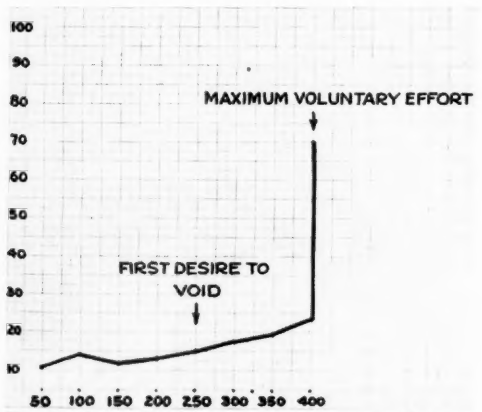

Fig. 6. Normal cystometrogram shows rise between 20–25 cm. with fill of 400 cc. Maximum voluntary pressure is rise of 70 cm. or over. (Figs. 1–5, color plates, at end of article.)

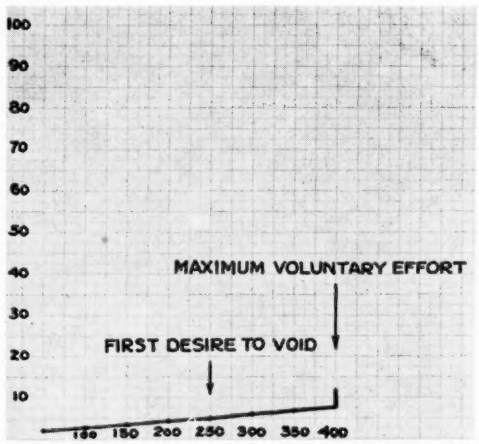

Fig. 7. Hypotonic curve typical of cystometrogram in paralytic vesical atony following abdominoperineal proctosigmoidectomy.

Time and the maintenance of a bladder at rest without infection are considered to be the greatest factors permitting restitution of normal vesical activity. Paralytic vesical

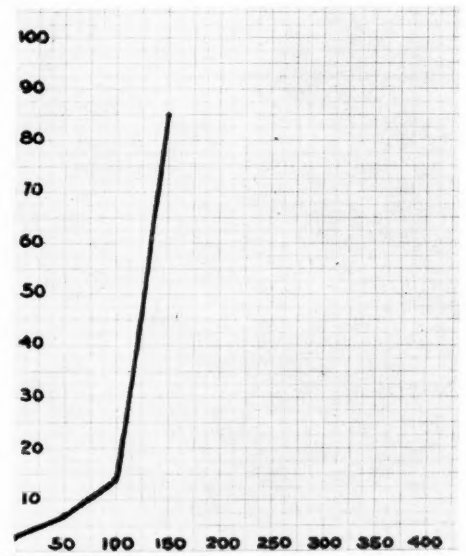

Fig. 8. The hypertonic curve typical of the cystometrogram in spinal cord lesions.

atony does not differ from "cord bladder" in the control of infection. Such bladders are more subject to infection than the normally functioning organ. The most frequent offending organism found in the neurogenic bladder of long standing is the B. proteus. This organism, if once established, is only eliminated with difficulty, if at all, until the bladder returns to normal functional activity.

SUMMARY

1. A resume of the management of 13 cases of vesical dysfunction occurring in 292 cases of rectal and anal carcinoma subjected to abdominoperineal proctosigmoidectomy has been presented.

2. The close anatomic inter-relationship between the sigmoid and bladder has been shown.

3. Paralytic vesical atony occurs following resection of the sigmoid and rectum for carcinoma. Its occurrence should be anticipated in every instance in which "proctosigmoidectomy" is done, and measures should be taken to prevent it before it occurs.

4. Paralytic vesical atony following "proctosigmoidectomy" is considered to be due to trauma to, or the inadvertent removal of, the inferior hypogastric or pelvic plexus. Whenever it occurs, there is definite alteration of the cystometrogram immediately following operation. The vesical dysfunction is not due to obstructive uropathy, as atony has been observed in men below the "prostatic age" without visible or palpable evidence of enlargement and also in women. Due to the neurogenic origin, transurethral resection has not been done to restore normal urinary function.

5. There were 13 instances in 292 cases in which normal micturition was impossible at the time of discharge from the hospital. Of these 13 cases, 10 are living and well, have returned to normal existence and urinate naturally. One patient had a recurrence and died as the result, but urinated normally before her death. Another committed suicide 13 months after operation. The thirteenth case is too recent to evaluate.

6. The best possible procedure to maintain normal musculature is to maintain a bladder at rest. Continuous catheter drainage is preferred to either intermittent catheterization or to suprapubic cystotomy in the maintenance of a bladder at rest.

7. Vesical dysfunction may be transitory or may be present for days, weeks or even months. Paralytic vesical atony may be permanent, if measures are not taken to prevent its occurrence.

8. Paralytic vesical atony may be complicated by cystitis. Phthalylsulfathiazole (sulfathalidine), administered routinely before bowel surgery, apparently exerts a bacteriostatic effect on the bacteria found in the urinary tract. Of a total of 90 cases, 55 or 61.1 per cent revealed growth on original cultures before operation.

9. The oral administration of syntropan, 200 mg., for its effect on decreasing the tone of the smooth muscle of the internal sphincter, is of aid in reestablishing normal urination when the detrusor tone is normal or when urination is difficult. Such dosage may be continued for weeks or months without harmful reaction.

RÉSUMÉ

1. Résumé du traitement suivi dans treize cas de dysfonction vesicale survenant dans 292 cas de carcinome rectal et anal dans lesquels fut pratiquee la proctosigmoidectomie abdomino-périnéale.

2. Les rapports anatomiques internes existant entre le côlon sigmoide et la vessie urinaire sont démontrés.

3. L'atonie paralytique vésicale peut suivre la résection de l'anse sigmoide pour le carcinome du rectum et du sigmoide. Des precautions doivent etre prises pour empêcher cette complication.

4. L'atonie paralytique vésicale survenant après la proctosigmoidectomie est probablement due à un traumatisme ou à l'ablation imprévue des nerfs hypogastrique ou du plexus pelvien. La dysfonction vesicale n'est pas due à une uropathie obstructive, car cette atonie a été observée chez des hommes n'ayant pas l'âge prostatique et ne presentant aucun signe visible ou palpable d'hypertrophie prostatique. Elle a été observée aussi chez des femmes. Elle a une origine neuro-

génique, la résection trans-urethrale n'est pas indiquée.

5. Dans treize cas sur 292 cas, la micturition normale était impossible quand les malades quittèrent l'hôpital. De ces treize, dix sont vivants et bien portants ont repris leu existence coutumière et urine normalement. Un malade eut une récidive qui entraîna la mort, mais il urinait sans difficuté avant sa mort. Un autre se suicida 13 mois après l'opération. Le treizième cas est trop récent pour justifier une évaluation.

6. Le meilleur moyen pour maintenir une musculature normale de la vessie est de maintenir la vessie en repos. Une sondé permanente est préféreable au sondage intermittent ou à la cystotomie suprapubique.

7. La dysfonction vesicale peut être temporaire ou peut durer des jours, des semaines ou des mois. L'atonie paralytique vesicale peut devenir permanente si on ne prend pas des précautions pour empêcher son développement.

8. L'atonie vesicale paralytique peut être compliquée de cystite. Le phthalysulfathiozole, administré avant toute opération sur les intestins, a apparemment une action bactériostatique sur las bactéries présentes dans les voies urinaires. Sur 90 cas, 55 ou 61.1% présentaient des bactéries sur cultures avant l'acte opératoire.

9. L'administration de syntropan, 200 mg., afin de diminuer la tonicité des fibres lisses du sphincter interne aide a rétablir l'urination normale quand la tonicité du détruseur est normale ou quand l'urination est difficile. Le dosage sus-mentionné peut être continué pendant des semaines et des mois sans effets nocifs.

SUMARIO

1. Se presenta un resumen del tratamiento de 13 casos de disfunción vesical en 292 casos de proctosigmoidectomia abdomino-perineal que fueron practicadas para el tratamiento del cáncer anal y rectal.

2. Se muestra la relación intima que existe entre la vejiga urinaria y el sigmoideo anatomicamente.

3. La atania paralitica de la vejiga ocurre complicación en las resecciones del sigmoideo y del recto, por lo tanto esta complicación se debe de anticipar y evitar instituyendo medidas efectivas en dichas operaciones.

4. La atonia paralitica de la vejiga en estas operaciones se debe al traumatismo quirúrgico o a la exeresis accidental del plexo hipogastrico inferior a del plexo pelvico. Cuando esta se presenta, siempre se encuentra alteración definitiva del cystometrograma inmediatamente después de la operación. La disfunción vesical no se debe a la uropatia obstructiva, por cuanto esta ha sido observada en hombres que no sufren del prostatisma asi como en la mujer. Debido a su origen neurogenico no ha sido tratada por la resección transuretral.

5. De los trece casos de atonia paralitica vesical 10 han recobrado completamente y pueden orinar naturalmente. Un paciente recobro de la atonia vesical pero mucho mas tarde de la recidiva del cáncer. Otro paciente se suicidio 13 meses después de la operación.

6. El mejor procedimiento para mantener normalmente la musculatura de la vejiga es poniendola en descanzo continuo por la cateterización constante. Este procedimiento es superior a la cateterización intermitent a la cistotomia suprapubica.

7. La disfunción vesical puede ser transitoria y durar hast meses, peru puede hacerse permanente si no se usan medicas efectivas para prevenirla.

8. Cuando la atonia vesical paralitica se complica por la cistitis se debe de administrar rutinamente la sulfatalidina en el periodo pre-operatorio, por cuanto esta droga tiene un gran poder bacteriostatico. En 90 casos pre-operatorios 55 presentaron culturas positivas.

9. La administración por via oral del sintropano en doses de 200 mgms. ayuda a reestablecer la micturición normal y su uso puede continuarse por semanas y meses sin que ella produsca reacciones daninas. Esta droga disminuye el tono del esfineter vesical interno y por lo tanto favorece la micturición normal cuando el tono muscular del detrusor es normal.

RIASSUNTO

1. L'autore riassume il trattamento di 13 casi di disfunzione vescicale occorsa in 292 casi di carcinoma rettale ed anale sottoposti a proctosigmoidectomia addomino-perineale.

2. L'intimità della relazioni anatomiche fra il sigma e la vescica viene illustrata.

3. Un'atonia paralitica della vescica occorre frequentemente dopo la resezione del sigma e del retto per carcinoma. La sua comparsa dovrebbe essere anticipata in ogni caso di proctosigmoidectomia: misure preventive dovrebbero essere prese prima della sua occorrenza.

4. L'atonia paralitica della vescica dopo proctosigmoidectomia viene attribuita al trauma operatorio, oppure alla resezione involontaria del plesso ipogastrico o pelvico. Ogni qualvolta questa si presenti, una modificazione del cistometro-gramma segue immediatamente l'operazione. La disfunzione vescicale non è dovuta a fatti ostruttivi, poichè è stata rescontrata in pazienti al disotto dell' "età prostatica," senza ipertrofia della prostata ed in donne. Essendo di origine nervosa, non richiede una resezione transuretrale.

5. In 13 casi sopra 292 la minzione era imperfetta quando dimessi dall'ospedale. 10 hanno riacquistato una normale funzione delle vescica e si trovano in buone condizioni di salute. Un paziente ha avuto una recidiva con esito letale: urinava pero bene prima di morire. Un altro paziente si è suicidato 13 mesi dopo l'operazione. Il tredicesimo caso è stato operato troppo di recente per un'esatta valutazione.

6. La migliore cura preventiva è quella di mantenere la vescica a riposo. La caterizzazione a permananza è preferibile a quella intermittente ed alla cistotomia soprapubica.

7. La disfunzione vescicale puo essere transitoria o puo durare giorni, settimane, o mesi. Puo divenire permanente se non vengono prese misure preventive.

8. L'atonia vescicale puo essere complicata da cistite. Sulfaptalidina, somministrata comunemente prima della chirurgia addominale, sembra esercitare un'azione batteriostatica sopra i batteri ritrovati nel tratto urinario. In 55 casi sopra 90 (61%) le culture rivelavano la presenza di batteri già prima dell'operazione.

9. L'amministrazione perorale di 200 mg. di syntropan aiuta il ritorno ad una normale funzione vescicale quando il tono del detrursore è normale, o quando la minzione è difficile. La somministrazione quotidiana di questa dose puo essere continuata per settimane e mesi senza reazioni dannose.

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Page Opposite: Fig. 1. (top).—Sympathetic innervation seen as network extending from above the bifurcation of the great vessels and passing to the pelvic or inferior hypogastric plexus.

Fig. 2. (bottom).—Parasympathetic nerves seen to enter the inferior hypogastric or pelvic plexus together with the sympathetic fibers. The pudendal nerve is in normal position and is not in direct communication with the other nerve factors that control urination.

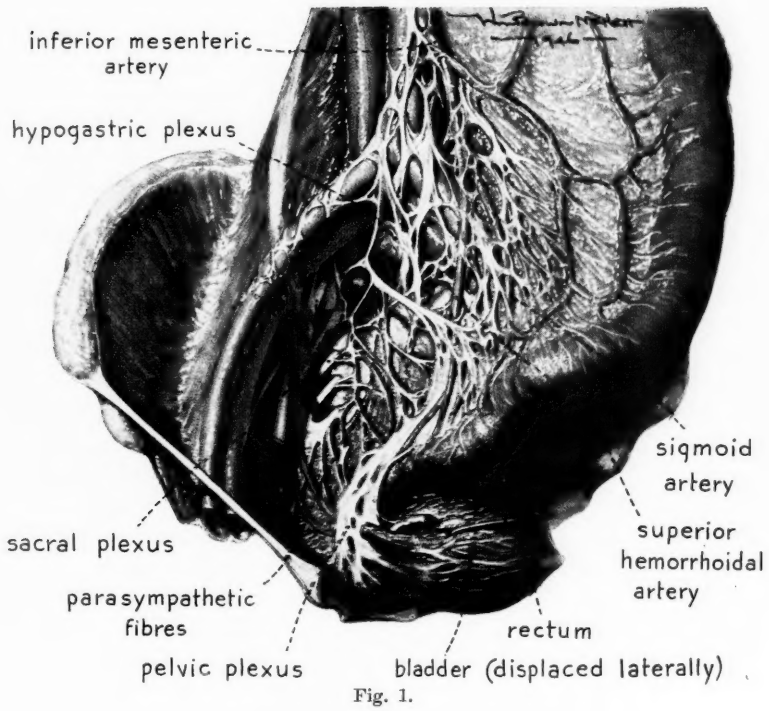
inferior mesenteric artery
hypogastric plexus
sigmoid artery
superior hemorrhoidal artery
sacral plexus
parasympathetic fibres
pelvic plexus
rectum
bladder (displaced laterally)

Fig. 1.

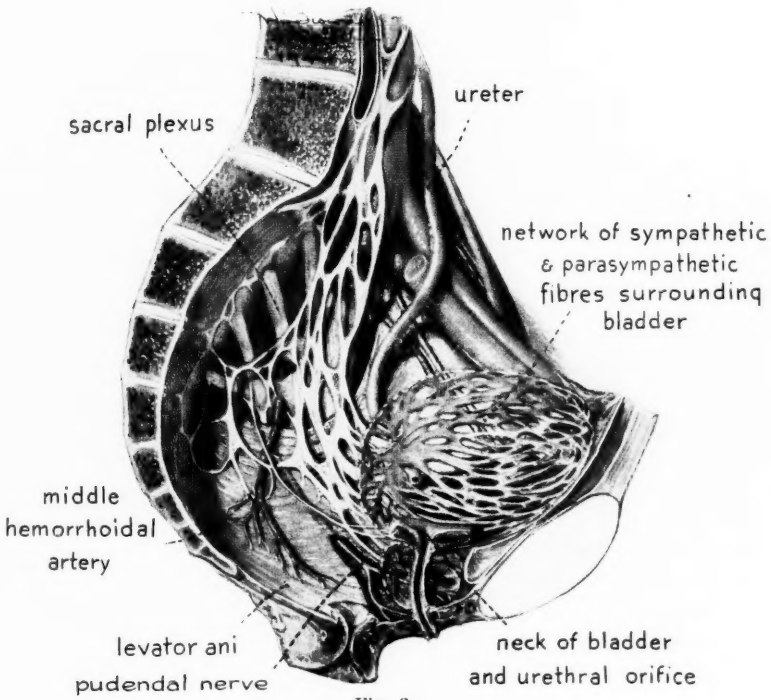
ureter
sacral plexus
network of sympathetic & parasympathetic fibres surrounding bladder
middle hemorrhoidal artery
levator ani
pudendal nerve
neck of bladder and urethral orifice

Fig. 2.

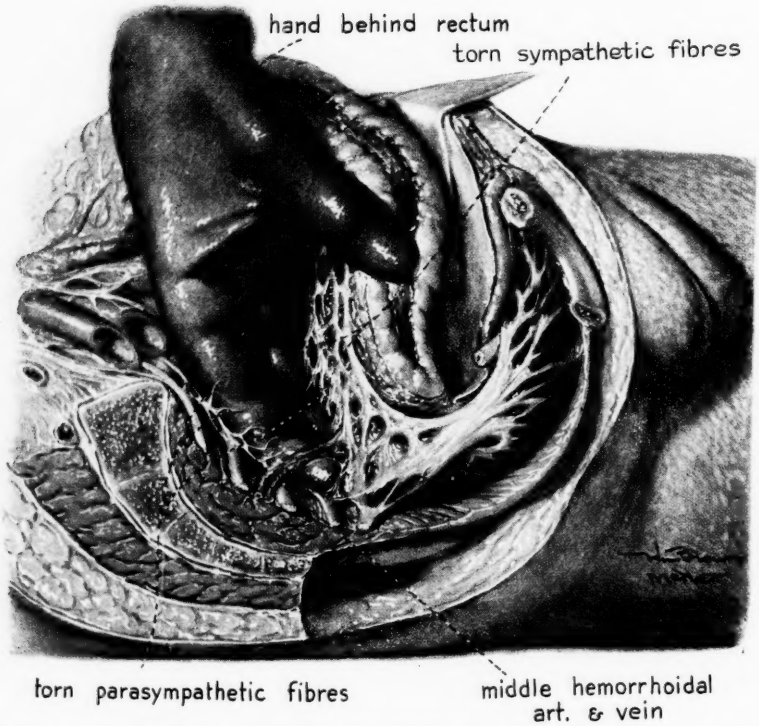

Fig. 3. Sympathetic and parasympathetic nerve fibers are inadvertently torn by the surgeon as the rectosigmoid is freed of anatomic attachments.

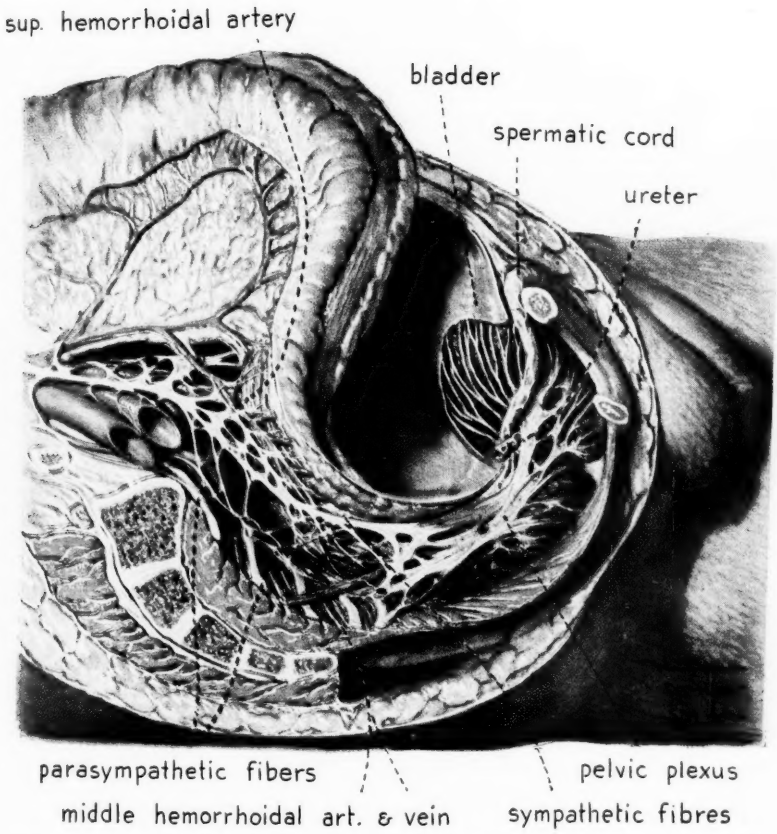

Fig. 4. Parasympathetic fibers arising from second, third and fourth anal segments join sympathetic fibers to form pelvic or inferior hypogastric or plexus.

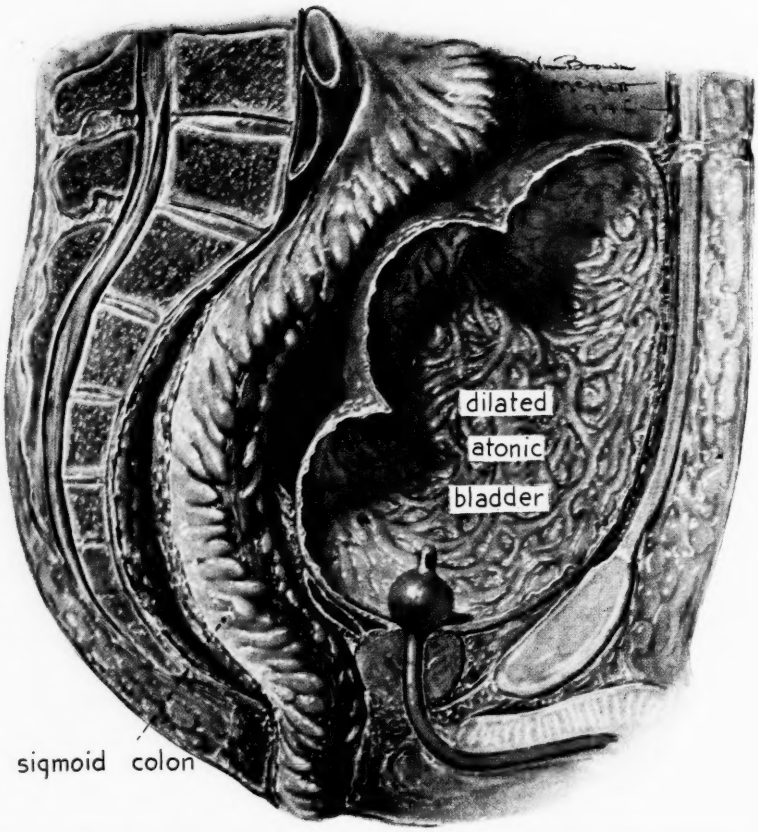

Fig. 5. Bladder of paralytic atony following abdominoperineal proctosigmoideetomy rapidly becomes a hapless reservoir. The walls become thin; massive diverticulation occurs; and the viscus rapidly becomes a functionless, thin-walled, irregularly shaped, dilated, noncontractable reservoir, laden with infection and without normal function.

Gastric Resection

Its History and Present Status

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EVER since gastric resection has become an accepted form of surgical therapy for intractable duodenal ulcer as well as for gastric ulcer and carcinoma, the operation is being performed more frequently. Nevertheless, many of our younger men have never had the opportunity to know exactly the contributions made to its development by both American and foreign surgeons. This is because medical and surgical history is not commonly taught in our schools. It would seem, therefore, that a complete history and evaluation of this surgical procedure would be in order at the present time, especially since the authors know of no similar comprehensive treatise on this subject in the English language.

The removal of a portion of the stomach was first mentioned in a thesis written by Daniel Paul Carl Theodore Merrem, of Giessen, in 1810, in which he states that an American surgeon of Philadelphia performed the first pylorectomy, experimenting on dogs. Despite the fact that the dogs died, this surgeon, presumed to be John Jones, advocated its usage on humans when conditions were suitable. Merrem also performed pylorectomies on three dogs, with two surviving. After he removed the pylorus, he sutured the remaining portion of the stomach to the duodenum by the invagination method, which then was used for reestablishing continuity of the intestinal tract.

The first to be credited for resection of a portion of the stomach of a human being is Ruggero Torelli, who performed his operation on Sept. 14, 1865. However, his method was not that of a gastrectomy as it is known today, but merely a resection of the anterior stomach wall which was incarcerated in a fissure of a ventral hernia. Torelli removed part of the anterior gastric wall and closed the opening with sutures; the patient recovered. The operation was not planned, but was occasioned by force of circumstances.

Gussenbauer and Winiwarter reported seven cases of pylorectomy on dogs in 1876, with two survivals. Kaiser, in 1876 and 1877, while with the Czerny clinic, also experimented on stomach resection in dogs, making an annular resection of the stomach on five dogs, four of which survived. One of the dogs on which Kaiser and Czerny did a pylorectomy lived five years after the operation.

In 1877, Billroth, in reporting the repair of a gastric fistula on a human, wrote: "From this operation to resection of a piece of a carcinomatously degenerated stomach it is necessary only to make one bold step." Evidently he was unaware of the resection done by Ruggero Torelli 12 years before. However, Billroth spoke of a deliberate, planned removal of a portion of the stomach, thereby first introducing surgical therapy for stomach cancer.

Cognizant of the previous experiments, Péan in 1879 performed the first pylorectomy on man. He excised the diseased (malignant) pyloric portion of the stomach and anastomosed the open end of the duodenum to the opening at the greater curvature of the stomach and closed the upper part of the gastric opening. To this day, the French continue to call this the Péan gastrectomy method. Elsewhere in the world, however, and especially elsewhere in Europe, it is known as the Billroth I method of gastrectomy, since Billroth's was the first successful case of resection and direct anastomosis.

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Rydygier, in 1880, also attempted this same operation for pyloric cancer, but his patient died. He emphasized that one must find the disease early and must have a safe operative technic in order to hope for success in such operations.

Billroth's successful operation[1] was performed on Jan. 29, 1881, two years after Péan's unsuccessful attempt, the stump of the stomach being united with the cut end of the duodenum. Billroth's first publication of this well-nigh most important event in the entire history of gastric surgery appeared Feb. 5, 1881, just seven days after the operation. The case involved a 43 year old anemic woman, who became ill in October, 1880, with rather sudden vomiting. Soon she showed signs of a stenosing gastric carcinoma with vomiting of coffee ground material. Because of persistent vomiting for six weeks she was in a precarious condition. At this operation, performed under general anesthesia, Billroth found a large, infiltrating carcinoma of the pylorus involving the distal third of the stomach. He resected the stomach 1 cm. from the edge of the tumor and also cut across the duodenum just beyond the pyloric sphincter. The opening in the proximal portion of the stomach was partly closed, beginning at the greater curvature, then the duodenal opening was anastomosed to this opening along the lesser curvature. The operation lasted only one hour and 30 minutes, including the time taken to attain surgical anesthesia. Surprisingly, a smooth postoperative course followed without pain or vomiting. Careful feeding was prescribed, beginning with the second postoperative day.

The resected portion of stomach was 14 cm. long at the greater curvature, and the pylorus admitted a pencil with difficulty. The shape of the stomach hardly had been changed by the operation, only becoming smaller. The patient died several months later from metastases to the liver; the specimen, obtained at autopsy, is still being exhibited in the museum of the second surgical clinic of the University of Vienna.

The first successful gastric resection *for ulcer*, and at the same time for benign pyloric stenosis, was performed Nov. 21, 1881, by Rydygier.[2] The patient, a 30 year old woman, was presented as a 25-year cure at the Surgical Congress in Berlin in 1906.

To avoid insufficiency of the sutures at the so-called danger corner, i.e., the place where the stitches closing the stomach meet with the anterior and posterior stitches of the anastomosis, Kocher suggested that the stomach opening be closed off entirely and an end-to-side implantation of the duodenum into the posterior wall of the stump of the stomach be done. Because of its greater safety, this method was used many times, until the proper suturing technic was learned with which the dangers of Billroth I could be avoided.

Reidel suggested direct cross-section of the stomach for ulcer of the lesser curvature, and reported his experiences in 1904.[3] In this operation the ulcer is removed together with a cuff-shaped section of the stomach, then the pyloric and cardiac portions of the stomach are sewed together. Because the lesser curvature is shorter, the width of stomach to be resected here should be narrower than on the greater curvature, so that after suturing, the normal shape of the stomach is restored. In 1909, von Payr warmly recommended this straight-across, or circular, resection which he considered more radical than simple excision of the ulcer, the usual procedure up to that time.[4]

However, limited circular resections of the stomach are inadequate and are followed by recurrent ulceration. Hence, this method of operation soon fell into disuse.

In 1911, Shoemaker (Haag) published a short paper on the technic of the Billroth I gastric resection, in which he explained how even extensive gastric resection could be performed. According to his method, the lesser curvature should be completely resected in cases where the cancer is situated there. A gutlike piece of stomach will remain along the greater curvature, which, after it has been properly closed, can be united end-to-end with the duodenum. Because a long piece of the greater curvature will remain and, on the other hand, the entire lesser curvature and the seat of the cancer is removed, Shoemaker reported in 1922 that he was able to resect extensive cancers with this method,[5] which is

similar to the Billroth I method of curved resection of an ulcer of the cardia.

In 1920, von Haberer alleged that Kocher's modification is unnecessary.[6] He recommended again the value of the Billroth I method, which had fallen somewhat into disrepute, basing his advice on his experiences with 80 cases, many of them extensive resections, in all of which good results were obtained by more extensive mobilization of the stomach and duodenum.[7] Two years later he was able to report that from 1917 to 1921 he used the Billroth I method in 308 out of 485 resections, with only 17 deaths—a 5.5 per cent mortality. Four of these deaths were due to insufficiency of the sutures, because on the posterior wall of the duodenum no normal serosa is available. To avoid these deaths and still unite the duodenum with the stump of the stomach, von Haberer, in 1922, recommended his modification,[8] in which the duodenum is closed blindly and the mobilized descending portion of the duodenum is united side-to-end to the entire width of the resection opening of the stomach. In 17 such operations, he had only one death due to a small defect in the anterior anastomotic sutures. This particular patient was a cachectic man of 53 with a chronic duodenal ulcer that penetrated into the pancreas; therefore, von Haberer also felt obligated to resect a portion of the head of the pancreas. The case was thus one in which his method really was contraindicated.

Because (even if Riedel's or Payr's straight-across resection is used) large sections of the normal stomach, particularly at the greater curvature, have to be removed, and the suture in the wound of the lesser curvature comes very close to the site of the ulcer, Schmieden suggested the steplike resection of the stomach for gastric ulcer.[9] In this method, the excision of the lesser curvature is combined with a cross-section of the stomach, so that only a very small strip of the greater curvature is removed. Since Schmieden always sought to save as much normal stomach mucosa and musculature as was possible, and since he felt it essential to restore the lesser curvature, he strenuously opposed Finsterer's proposition to resect from one-half to two-thirds of the stomach, labeling it as a giant and unphysiologic resection.

Much more complicated is the history of the Billroth II method, which in France is called simply the Billroth gastric resection. The essentials of this method are: the duodenum is closed blindly and the stump of the stomach is closed completely, after which the stomach is anastomosed to a loop of jejunum side-to-side. In 1916, Narath compiled the entire history of the Billroth II method.[10] From this we learn that Billroth used this method for the first time Jan. 15, 1885. At first he performed a gastro-enterostomy according to the method of Wölfler, and then added to it the extirpation of the cancer. At this stage, the duodenum first was cut and separated, its lumen turned in and then closed with two layers of Lembert sutures. Finally, the stomach was cut off at a distance of ½ cm. from the anastomosis, and the opening was closed immediately by occlusion sutures and, on top of this, by Lembert sutures. Billroth demonstrated this case Feb. 29, 1885,[11] and a detailed account of it was published by von Hacker. The patient later developed abdominal distention and constipation and died four months postoperatively. Autopsy showed metastases to the peritoneum and a local recurrence in the gastro-enterostomy area. In addition, the transverse colon was stenosed and admitted only one finger, due to constriction caused by the mesentery of the loop of jejunum which was pulled upward for the anastomosis.

The second attempt to perform the Billroth II operation was made unsuccessfully by Heineke, who was unable to complete this operation because the cancer extended into the duodenum.[13] Krönlein performed the third operation in Zürich, Nov. 24, 1885.[14] The case was that of a 24 year old patient, who developed complete pyloric stenosis after previous trauma. Because he found, after resecting the severely stenosed duodenum and antrum, that the cross-section of the duodenum had an opening only admitting a fine probe and that further resection of the duodenum was impossible, Krönlein blindly closed the duodenum with several sutures and imbedded the stomach opening end-to-side into

a loop of jejunum. In other words, a modified Wölfler-type gastro-enterostomy was performed. The patient died 24 hours later. Autopsy findings were reported in detail by von Kreuzer;[15] they showed that the patient died of inanition due to malfunctioning of the anastomosis. The loop of jejunum was found kinked at a sharp angle and the distal portion was empty, while the proximal portion and the stomach were greatly distended. Perhaps the sharp-angled kink developed because the loop of jejunum was anastomosed antecolic and not retrocolic, as it is the custom at the present in many countries in Europe.

The fourth resection of this type was performed by von Eiselsberg Apr. 2, 1888, at the Billroth Klinik in Vienna. The cancer extended almost to the cardia; consequently, a direct anastomosis of the duodenum and stomach remnant was impossible. Only a small portion of the stomach, corresponding to the left half of the fundus, was retained, and the upper part of the stomach wound was closed, while the 4 cm. long opening corresponding to the greater curvature was implanted into a 30 cm. long loop of jejunum, anterior to the colon. Moreover, the loop was twisted to allow the direct passage of the stomach contents into the distal or efferent part. The patient died very suddenly 50 hours later with signs of perforating peritonitis. At autopsy, a lentil-sized hole was found at the point where the closure sutures of the stomach met with the anastomosing sutures of the stomach and bowel. The attempt was unsuccessful, but this failure could have been avoided if the afferent part of the jejunal loop had been sewed to the closing sutures of the stomach with two or three stitches, as is always done now with the Hofmeister-Finsterer modification. However, it seems that the jejunal loop was located in front of the colon, and besides, quite probably the loop was so twisted that the afferent stem lay at the greater curvature and the efferent stem at the lesser curvature. Therefore, the fixing sutures which protect the crucial angle would have pulled the bowel too high, and a filling of the afferent stem would have resulted.

In subsequent years, anastomosis between the stump of the stomach and the jejunum was carried out much more frequently; in the beginning, the jejunal loop was always located antecolic, and a side-to-side anastomosis was done with the stomach wall. The antecolic loop of jejunum was anastomosed only exceptionally with the posterior wall of the stomach side-to-side, being done for the first time by von Eiselsberg on Mar. 15, 1899. Roux was supposedly the first one who, according to a publication by von Kolbe,[16] on May 22, 1893, after a resection, brought the bowel to the posterior wall of the stomach through the mesocolon and in addition made a Y-shaped gastrojejunostomy.

The first gastric resection according to the method of Billroth II, as it is presently described in most of the textbooks (namely, a complete closure of the resection opening and a retrocolic side-to-side anastomosis) was done by Braun, in Göttingen on Feb. 7, 1894, according to a report by Creite.[17] Previously Braun had introduced entero-entero-anastomosis between the afferent and efferent intestinal loops (1892), especially for cases in which gastroduodenostomy was done; later in that same year the same method was introduced by Jaboulay. This method eventually proved to be an important supplemental procedure for cases of gastric resection in which an antecolic anastomosis was to be done. On May 2, 1894, von Hacker was the second operator to perform a Billroth II gastrectomy with retrocolic side-to-side anastomosis between a short jejunal loop and the posterior wall of the resected and closed stomach.[18] This became the method of choice for the treatment of stomach carcinoma; and anastomosis to the anterior wall, i.e., gastric resection with retrocolic anterior gastrojejunostomy, first done by Dubourg[19] in Bordeaux on Jan. 9, 1898, fell into disuse.

The application of the resected opening of the stomach for anastomosis, which was done in a single case by von Eiselsberg in 1888 upon the suggestion of von Hacker, was the exception even in 1898–1900. Narath cites the cases of Roux (operated on Aug. 8, 1891, patient died, according to Kolbe) of Doyen (operated on May 16, 1892, patient died[20]), of Müller in

Rostock,[21] of von Mikulicz, 1898,[22] of Tietze in Breslau,[23] and of Urban in Hamburg.[24]

In the case operated by Doyen, there was a pyloric cancer in a 35 year old woman, who died on the ninth day with symptoms of perforative peritonitis. At autopsy a suture defect was found at the place where the gastric closing sutures met with the anastomosing sutures. Because in the drawing attached to this report the anastomosing loop runs from the left to the right and upwards, the efferent stem hangs together with the occluding suture of the stomach. Consequently this dangerous corner could not have been made safe simply by fixing the efferent stem with a few additional sutures to the closing sutures of the stomach (which is done in the usual Hofmeister-Finsterer technic), because it would have resulted in a retrograde filling of the afferent loop. For this reason Doyen did not use this method any more, considering all sutures arranged in "T" form as defective, and he referred to the two fatal cases of Roux to substantiate his opinion.

At the German Surgical Congress of 1898, in conjunction with a paper read by von Mikulicz, there arose an interesting discussion of the technic of gastric resections. Von Mikulicz said that he no longer closed the duodenum with only a simple continuous suture because of its unsafety, but used two rows of braided sutures (Schnurnähte). The lumen of the stomach stump was sutured only in the upper part, while the lowest corner remained open and was implanted directly into a loop of jejunum. In addition, he used a Murphy button by which the operation becomes simpler and safer. In the subsequent discussion, Wölfler remarked that all gastric resection methods in which the stomach is resected and then joined with the bowel should be called Billroth II gastric resections, because here only a slight modification is involved not warranting a new name for the method.[25] Krönlein, however, held the standpoint that Mikulicz's operation, performed for the first time 10 years previously by Krönlein, should not be simply designated as Billroth II procedure, since it represented a noteworthy modification of the same. In the third volume of the *Handbuch der Praktischen Chirurgie,* published in 1900,[26] one can find an exact description and schematic drawing of the Krönlein-Mikulicz method, which was used at the Breslau Clinic just as frequently as the Billroth I method. In this article, attention is drawn to the fact that at the meeting point of the closing suture of the stomach and the anterior and posterior anastomosis sutures, there is a weak point, which, perhaps, has more importance than in the Billroth I method; that the anastomosis often is difficult to carry out, and for that reason, it could be done more advantageously with the Murphy button. It is remarkable, however, that neither von Mikulicz and his students, nor Makkas,[27] report on how frequently their modification, and how frequently the original Billroth II method, was employed. Makkas states simply that in 163 gastric resections, 80 were operated upon according to the Billroth I, and 81 patients either by the Billroth II method or with the Krönlein-Mikulicz modification of the latter method. Even the patients' records do not give further information.

In order to avoid the loosening of the closing sutures of the duodenal stump with its sequelae (peritonitis, duodenal fistula, etc.) and at the same time to prevent emptying of bile into the stomach, Trojani in 1900 suggested a procedure on the basis of animal experiments.[28] This procedure consisted of leaving the duodenum open (only temporarily closed) after resection of the stomach; the upper part of the stomach opening was then sutured and the lower part was anastomosed to a 30 cm. long jejunal loop, which was attached to the anterior wall of the stomach so that it ran from a higher level on the left to a lower level on the right. Finally, the duodenal opening was implanted end-to-side into the efferent stem of the jejunal loop, 8 cm. distal from the gastro-enterostomy opening, and the duodenum was constricted with a thread just below the papilla with the object of forcing the bile to flow directly into the efferent jejunal loop. This method was never carried out on humans, according to Narath; it was rediscovered only 12 years later by Lewit,[29] who made a small constriction with a thread just below the papilla of the duo-

denum because he wanted to avoid any "blow-out" of the duodenal stump.

Because duodenal closure can often be compromised by the retrograde filling of the afferent loop, as occasionally happens in the Krönlein-Mikulicz method as a result of the peculiarly attached anastomosing loop and of the long (50 cm.) afferent stem, Rydygier recommended in 1904 the use of a Y-form anastomosis which would allow, in the case of a debilitated patient, the performance of the operation in two stages. In such a case, during the first operation the stomach is severed at a fairly far distance proximally from the tumor, after clamps have been put on. Then, the jejunum is severed 30–40 cm. distal to the ligament of Treitz, and the afferent bowel is anastomosed end-to-side 15 cm. distal, into the efferent stem. Then the efferent stem is brought upward and anastomosed end-to-end to the opening remaining at the greater curvature, the upper part of the stomach having been previously sutured. A stomach tube is inserted through the distal part of the stomach and the pylorus into the duodenum, the cut end of the stomach is sewed into the laparotomy wound, which is closed throughout except in the area of the stomach fistula. The tumor is removed at a second operation and the duodenum closed.

Moszkovicz made a similar recommendation in 1908 at the Surgical Congress.[30] After removing the tumor with "aseptic instruments" he would pull the uppermost loop of jejunum forward and sever it across; the afferent bowel would be anastomosed to the efferent bowel. Then the efferent bowel would be pulled up through a slit in the mesocolon and united end-to-end to the lower part of the stomach wound. According to Narath, this theoretical recommendation was never done, even by the author.

Graser (Erlangen) reported at the Surgical Congress in 1906[31] that in two cases of extensive gastric resection, after performing which, only a bowel-like tube of stomach remained, he pulled this gastric segment into the free abdominal cavity through a slit in the mesocolon and anastomosed the open end into the convexity of a jejunal loop; both patients recovered. An attached sketch shows that, exactly as with the Krönlein-Mikulicz method, the lower end corresponding to the greater curvature was cut straight across and that the bowel loop was attached from the left to the right. Due to this, a dangerous corner develops at the place where the stomach-closing sutures meet with the anterior and posterior anastomosing sutures. The corner cannot be covered with the efferent stem because it would result in a retrograde filling due to the pulling up of the efferent stem. This disadvantage is avoided in the method recommended by Monprofit,[32] in which the anastomosing loop runs from the right to the left, the afferent stem lying opposite the lesser curvature. Therefore, it can be sewn down over the closing sutures of the stomach, to cover effectively the dangerous corner, exactly as done in the Hofmeister-Finsterer method.

In the procedure described by Delageniere, after transection and closure of the duodenum, the stomach is transected lengthwise over a closing clamp, beginning at the cardia in direct continuation of the esophagus; then the mucosa which stands out 3 cm. beyond the clamp is sutured in the upper part. When the fundus is freed sufficiently from its connections (the gastrosplenic ligament) so that resection can be done, the vertical clamp is withdrawn and the horizontal clamp is put on where the vertical mucosal suture ends, and the stomach is cut across approximately 2 cm. in front of the clamp. The vertical suture is completed, the second row being seromuscular sutures, the third layer sero-serous suture. The first loop of jejunum is brought up through a slit in the mesocolon and is anastomosed with the transverse section of the stomach stump.

In nine cases of subtotal resection for cancer, Delageniere closed the stomach completely in four instances, i.e., he performed the original Billroth II method; in the other five cases he used the above described method, with two deaths. At autopsy, a fistula was found high up in the esophagus. Due to the severing of the stomach with two cuts at right angles to each other, there develops a very dangerous corner in the area where the closing sutures of the stomach and the anastomosis sutures meet; this danger is increased par-

ticularly by faulty nourishment, and perforation is likely to occur. It is not surprising, therefore, that this method never enjoyed popularity.

At the Surgical Conference in 1908 in Chemnitz, Reichel [34] reported that in a case of suspected carcinoma in which extensive gastric resection had been done and the stump of the stomach could not be united to the duodenum, he closed the duodenum and implanted the entire opening of the stomach sidewise into the uppermost loop of the jejunum, the anastomosis being 8–10 cm. wide, instead of doing a Billroth II. The patient made an uneventful recovery. Reichel later used this same method in two other cases purposely. While in one patient smooth healing took place, the second one died because the duodenal suture did not hold. However, the anastomosis between stomach and bowel was well healed. On Jan. 4, 1916, Reichel mentioned supplementarily that he performed the first operation on May 28, 1907, on a woman, 54, and that he did it exactly the same way as he now does routinely in all pyloric resections and exclusions of the pylorus. Moreover, after the closure of the duodenum and transverse section of the stomach, the uppermost loop of jejunum is pulled upward through a slit in the mesocolon and is anastomosed with the entire width of the stomach so that the afferent stem will lie on the lesser curvature and the efferent stem on the greater curvature of the stomach. The transverse colon is thrown upward, the anastomosis is pulled down through the slit in the mesocolon, and only then is the opening in the mesocolon fastened to the stomach.

In the same year (1908) Stumpf [35] reported on the material of Hofmeister's surgical clinic in Stuttgart. He stated that Hofmeister, from 1905 to 1908, instead of using the Billroth II method, used a modification of it in nine cases. This consisted of transection and blind closure of the duodenum; after that, the upper part of the resection wound of the stomach was closed, while the lower part was anastomosed to the uppermost loop of the jejunum, which was lifted up into the upper abdominal cavity through a slit in the mesocolon. In this procedure the catgut stomach-closing sutures were carried over to the stomach-bowel meeting area in order to attain safety at the dangerous point at which the three suture lines come together. In some of the nine cases, the entire transverse section was united with the jejunum just as in the Reichel procedure.

In 1911, Burk [36] published a report from the surgical clinic of Hofmeister, in which he gave an accurate description of Hofmeister's method, which was described as a modification of the Krönlein-Mikulicz procedure. It becomes evident from this publication, that this method was used deliberately during 1908 to 1911 in 41 pyloric resections (in 26 of these because of cancer); and after completion of anastomosis, it was pulled down into the free abdominal cavity through a slit in the mesocolon, and only then the leaves of the slit mesocolon were secured to the stomach.

V. Bergmann [37] (Riga) operated similarly; however, he used the entire width of the stomach which he narrowed somewhat by directing the needle transversely through the stomach wall and simply sticking the needle out on the bowel. On Dec. 6, 1909, Sasse (Frankfurt am Main) gave a lecture on the resection of extensive gastric carcinoma. On the basis of 12 cases, he recommended that after the completed resection, the upper part of the stomach stump be closed with sutures and the opening in the lower part be implanted retrocolic into the uppermost loop of the jejunum. This method was identical with the procedure practiced by Hofmeister.

On July 1, 1911, a short publication entitled "Zur Stumpfversorgung nach Magenresection" appeared in the *Zentralblatt für Chirurgie* (p. 892), in which Pólya of Budapest recommended (on the basis of six cases of extensive gastric resection) after the resection of the carcinoma, the implantation of the stomach stump in its total width end-to-side into a long incision in the uppermost jejunal loop, which was pulled into the upper abdominal cavity through a slit in the mesocolon. Pólya simplifies the technic of making the anastomosis in that he applies the posterior serosal suture between the posterior stomach wall and jejunum after the stomach has been

freed and cut off from the duodenum, but before the stomach itself is transected. This method has the advantage over the method of Billroth I and Kocher, that it eliminates all tension; hence the suture holds and the conditions for emptying the stomach are fairly favorable because the opening is wide and an afferent stem is absent, since the stomach empties in the uppermost part of the jejunum. The method is identical throughout with the procedure reported by Reichel at the Surgical Congress in 1898, but it apparently was unknown to Pólya. By publication in the popular *Zentralblatt für Chirurgie,* Pólya's technic became generally known in a short time, and his procedure soon became known as the Pólya operation in most countries, while the true designation, namely the method of Reichel-Pólya is rather seldom used.

The story has been recorded by Helen Clapesattle in *The Doctors Mayo* (University of Minnesota Press, 1941), that Dr. Will Mayo, of Rochester, Minnesota, had devised, perfected and prepared for publication a procedure of resection for stomach cancer, when he discovered that a similar method had been described several years before in an obscure Hungarian medical journal by an unknown surgeon, Jeno Pólya. Mayo, who had even drawn the illustrations for his material, immediately revised his article, giving the operaton the name of the Hungarian surgeon. Pólya's publication prompted Wilms to report that he had operated during the past two months on seven cases in a similar manner.[38] After resecting the stomach he closed the opening from the lesser and from the greater curvature, and then anastomosed the opening, which remained in the middle, with a loop of jejunum pulled up through a slit in the mesocolon. The opening in the mesocolon was not sutured to the stump of the stomach, but was fastened to the efferent stem by a few sutures to prevent further slipping of the jejunal loop. His student, Kunika, reported an additional 14 cases operated upon by the Wilms method.[39] However, in these cases the anastomosis was laid at the greater curvature instead of in the middle of the stomach opening. The anastomosis remained in the upper abdomen because the opening in the mesocolon was sewed to the efferent stem, and not to the stomach stump. Kunika described the operation as a new method and compared it to the Reichel-Pólya technic.

At a scientific meeting in Vienna on Sept. 23, 1913,[40] Hans Finsterer presented his modification of the Billroth II method, which was published in the *Deutsche Zeitschrift für Chirurgie.*[41] He performed his modification for the first time as an emergency on Sept. 20, 1911, in a 59 year old, highly emaciated woman (body weight 37.5 Kg.), who had a stenosing carcinoma of the lesser curvature reaching as high as the cardia. After the resection of four fifths of the stomach, there remained only a narrow, bowel-like tube at the fundus. It was impossible, therefore, to do the original Billroth II method, because the closing sutures of the stomach would have invaginated into the gastro-enterostomy opening. The resection opening, which was sutured in its upper part, was implanted end-to-side into the first jejunal loop. Postoperative course was uneventful. This influenced Finsterer to use the method in all cancer resections, even in cases of small pyloric cancers. Up to September, 1913, he had done 37 such resections: 27 for cancers, 8 for ulcers suspicious of cancer, 1 for lymphosarcoma, and 1 for myoma. The operation consists of median laparotomy with careful local anesthesia of the abdominal wall, then mesenteric anesthesia. The greater omentum is taken off from the transverse colon, by which the posterior stomach surface becomes visible. A slit is made in the transverse mesocolon just left of the midline and running from the root to the arcade. Through this opening the first loop of jejunum is brought into the upper abdominal cavity, and a fixing suture is laid on it. The colon is replaced into the abdominal cavity. After tying the hepatoduodenal ligament, the duodenum is ligated about 3 cm. beyond the pylorus; 1 cm. distal from this a purse-string suture is laid on. Then the duodenum is transected with the cautery between the ligature and a clamp, which is put on proximally. The duodenal stump is turned in, and the purse-string suture is tied above it. On top of this, another purse-string suture and one

layer of Lembert sutures are laid. While the disconnected stomach remains turned over to the left, the smaller omentum with its glands is separated and the left gastric artery is ligated beyond its origin. Following this, a Payr's clamp is put on the stomach in a direct line with the esophagus, and the stomach is closed with a continuous running suture under the clamp from the lesser curvature to about 5 cm. distant of the greater curvature. Distal to this, two strong clamps are put on, and between these and the Payr's clamp, the stomach is transected. A padded (rubber) clamp is put on the stomach stump, after which the Payr's crushing clamp is removed, and the remaining free opening is closed temporarily with a clamp. This is followed by the definite closure of the upper portion of the stomach's cut surface with two layers of Lembert's sutures. Then the stump of the stomach is pulled to the left, so that the posterior wall becomes visible. The left border of the mesocolon is fixed with several mattress-sutures to the posterior wall of the stomach at about 3 fingers breadth from the cut surface. After this, the first loop of jejunum is fixed with similar sutures to the posterior wall of the stomach for anastomosis. The jejunal loop must not be taken too short, so that kinking and tension in the afferent stem after the completed fixation are avoided. Because the lower end of the stomach stump usually lies somewhat beneath the duodenojejunal fold, the distance of the first fixation suture from Treitz's ligament is about 4–6 cm. The anastomosis is performed with three rows of sutures. In order to "eliminate" the dangerous corner, where the closing suture of the stomach and the anterior and posterior sutures of the anastomosis meet, the afferent stem of jejunum is fixed to the stomach with 2 or 3 mattress sutures so that first the anterior, then the posterior stomach wall and then twice the jejunal loop will be picked up in order that, after tying the suture, the stomach and bowel will lie flat on top of each other. After completion of the anastomosis, the right edge of the slit in the mesocolon is pulled above the anastomosis and is fixed to the anterior stomach wall with mattress sutures about 3 cm. away. Thus the completed anastomosis lies under the mesocolon and will lie in the free abdominal cavity; the closing suture of the stomach remains above the mesocolon and in the upper abdominal cavity. If, during the resection, parts of the pancreas have to be removed or if, as a result of separation, the liver is bleeding, the upper abdominal cavity is drained with a tube or gauze strips; otherwise the abdominal cavity is closed in the routine way with three layers of sutures. In three cases in which the cancer of the lesser curvature reached the esophagus, the right wall of the esophagus had to be resected. In order to reenforce the lateral sutures of the esophagus and to make them secure, a portion of the fundus reaching beyond the cardia was thrown around the esophagus, and they were united with Lembert sutures. In this way, the sutured esophagus was closed in by the serosa-covered fundus in cuff-like fashion, and through this the sutured part of the esophagus was, so to speak, invaginated into the stomach. If the upper border of the wrapped fundus is also sutured to the peritoneum of the diaphragm, then only such surfaces come in contact with each other as are covered by peritoneum, and healing without fistula formation is therefore likely.

Finsterer has discussed the advantages of his procedure over other methods, particularly over that of Wilms, in which the slit in the mesocolon is not sutured to the stomach but to the efferent stem, and the anastomosis remains in the upper abdominal cavity. As a result of this, in case of simultaneous pancreas resection or in spilling of infectious contents, the anastomosis itself is in danger and a fistula of the anastomosis may develop. While the Reichel-Pólya method is possible only in smaller resections, even large cancers involving the entire lesser curvature up to the cardia can be removed with Finsterer's method. As compared to the method of Krönlein-Mikulicz, we believe that the Hofmeister-Finsterer modification has the advantage that the dangerous corner will be covered completely by sewing the afferent stem with two or three safety sutures to the closing suture line of the stomach; an insufficiency of the sutures is very unlikely. The

retrograde filling of the long afferent stem in the Krönlein-Mikuliez method endangers the sutures of the duodenum; it can cause an insufficiency of the sutures and peritonitis or, at least, a duodenal fistula can result. In the Hofmeister-Finsterer method the short afferent stem is elevated and fixed onto the closing suture-line of the stomach, and retrograde filling (and possible subsequent duodenal "blow-out") is usually avoided.

Von Haberer [42] thought that Finsterer claimed originality for his method, but Finsterer [43] denied the allegation.

In a short publication [44] Finsterer recommended that for reduction of hyperacidity and to avoid recurrence of ulcer, at least one half to two thirds of the stomach should be removed during resection for ulcer, a recommendation now almost universally accepted. In cases of penetrating and far distally located duodenal ulcers, when because of nearness of the papilla and of involvement of the hepatoduodenal ligament resection of the ulcer seems dangerous, he recommended a "resection par exclusion," in which the stomach is transected three fingers breadth from the pylorus in the antrum, the distal portion is closed blindly after excision of its mucosa and two thirds is removed from the proximal portion of the stomach.

Then the anastomosis is performed end-to-side, according to the regular Hofmeister-Finsterer technic. When the penetrating duodenal ulcer is located far distally and the superior horizontal portion is free, the pylorus also is removed, the duodenum closed blindly proximally to the ulcer, and a typical gastric resection is carried out. This operation, which Floereken reported again in 1923 as a palliative resection,[45] has been gradually accepted by the profession. In 1939, Fromme discussed "resection par exclusion" in an exhaustive paper [46] and particularly pointed to the *necessity of the excision of the mucosa* from the antrum to avoid a recurrence of peptic ulcer, although he opposed the large two-third resections of the stomach (an operation first recommended by Finsterer in 1918), because in his experience the removal of one half of the stomach, and sometimes even only that of the antrum was sufficient.

In reply, Finsterer [47] again emphasized that on the basis of his experiences with 164 resections with exclusion, the long range results depend solely upon the large amount of stomach resected and not at all upon the simultaneous removal of the pylorus, because in 90 cases in which the pylorus was left, he obtained 86.8 per cent permanent cures, 2.2 per cent improved cases and 11.1 per cent unhealed cases (in the last 10 years he had no failures whatever). On the other hand, in 35 cases in which the pylorus was simultaneously removed, there were 77.1 per cent completely without complaints, 11.4 per cent improved and 11.4 per cent unimproved. In contrast, the operative mortality was 5.1 per cent if the pylorus was left (116 cases with 6 deaths), and 16.6 per cent if the pylorus was simultaneously removed (48 cases with 8 deaths, among them three cases of peritonitis following insufficiency of the duodenal sutures). For this reason, the pylorus should be removed only in such cases in which the ulcer is located quite far outward (distally). In the case of a normal-sized stomach, two thirds should always be resected, but if the case is one of a markedly dilated stomach (especially if involving the antrum), three fourths to four fifths should be removed, so that only the normal cardiac portion (i.e. only one third) of the stomach will remain. To resect less than this in cases of ulcer is to invite an almost certain recurrence.

In 1923 Madlener recommended that in cases where the gastric ulcer is located high near the cardia,[48] the ulcer should be left. He recommended resecting only the distal half of the stomach including the pylorus, and doing a Billroth I operation. He felt that by reduction in hyperacidity the ulcer was bound to heal anyway. In a later work [49] he was able to report 29 successful cases with his method and stated that out of 27 cases (operated from 3–16 years ago), 25 patients were completely without complaints.

In a short paper concerning gastric ulcer near the cardia,[50] Finsterer confirmed this satisfactory experience with Madlener's resection, and stated that he now used it in cases of ulcer near the cardia, especially

where the ulcer is on the posterior wall and involves the esophagus.

In the Billroth II method and its modifications, the danger of an insufficiency of the duodenal closing sutures exists when, as is the case with the Krönlein-Mikulicz method, a long loop is taken and when the duodenal closure is made with a continuous suture overlaid by a row of Lembert sutures. The ordinary technic of closing the duodenum with ligature, purse-string suture inversion of the stump and two rows of Lembert sutures, as Finsterer first reported in 1914, is possible only in nonpenetrating duodenal ulcer. With a large duodenal ulcer penetrating the pancreas, the ulcer area in the pancreas is left; the posterior duodenal wall is freed up to 1 cm. from the ulcer area of the pancreas; the open lumen is closed with a constricting purse-string suture; and ½–1 cm. distant from it, a second purse-string suture is laid on; after inverting the closed duodenal stump, the purse-string suture is tied in a knot. On top of this, two rows of Lembert sutures are placed. Finally, the duodenum is covered with a portion of ligament previously tied.

To avoid freeing the duodenum from the pancreas distal to the ulcer area, Nissen, of Berlin, and Bsteh from the department of surgery of Professor Schönbauer in Vienna, developed almost identical procedures. According to Nissen, his paper appeared one year earlier. Bsteh [51] frees the duodenum from the ulcer area in the pancreas, then cuts the anterior wall of the duodenum so that the stomach can be turned to the left. He then sews the already mobilized anterior wall of the duodenum over the ulcer area in such a way that he stitches together the distal edge of the ulcer to the anterior wall of the duodenum 1–2 cm. distant from the edge. The edges are inverted with half purse-string sutures. By tying the sutures, the anterior wall is inverted into the duodenum, and lies then on the posterior wall. With a second row of sutures the anterior wall is fixed to the proximal edge of the ulcer by three or four stitches, and again at the edges one-half purse-string sutures are applied. Thus the entire ulcer area is covered with the anterior wall of the duodenum and is completely sealed off. In a third row, the thickened peritoneal covering of the pancreas is sewn to the anterior wall, thereby strengthening the closing suture.

Nissen's technic [52] varies slightly from this. The duodenum is freed from the ulcer area, the anterior wall of the duodenum is transected at the level of the ulcer. The posterior wall remains attached to the distal edge of the ulcer. The anterior wall of the duodenum is sewn to the distal edge of the ulcer, thereby to the mucosa of the posterior wall of the duodenum, and thus the lumen of the duodenum is closed. The second suture now catches the proximal ulcer edge and the anterior wall of the duodenum 1–2 cm. distal, so that after tying the suture the ulcer area is completely closed by the anterior wall of the duodenum. In a third row of sutures, the thickened peritoneum of the pancreas is sewn to the anterior wall of the duodenum, thereby reenforcing the closing suture. With this method, Nissen did not encounter a single death in 250 cases of atypical duodenal closure that had any connection with the nature of the duodenal closure.[53] A duodenal fistula was observed only twice, and both closed spontaneously. Nissen comes to the conclusion, therefore, that any duodenal ulcer penetrating into the pancreas can be resected by his method, and that Finsterer's resection by exclusion is unnecessary.

In a publication in 1940,[54] Finsterer pointed out that in Nissen's method the first and second suture rows are put into scar tissue and may tear. In such case, only the third row of sutures, joining peritoneum to peritoneum, would be left to hold the closure. This last line of suture should not include any pancreatic tissue. Nissen's method is especially suitable in small ulcers where the involved area is not wider than the width of the duodenum; otherwise the sutures will cut through because of tension.

Finsterer tried Nissen's method in 15 cases with small penetrating ulcers. Three deaths resulted from the nature of the closure, inasmuch as after the sutures cut through, diffuse peritonitis developed in one case, and in two cases duodenal fistulas developed with death after 23 and 36 days from inanition. During

recent years, more than 200 cases of penetrating duodenal ulcers were operated upon successfully in Finsterer's department with Bsteh's method, without loosening of the sutures and subsequent peritonitis or duodenal fistula.

In 1914, instead of total gastric resection in cases of carcinoma involving the wall of the esophagus, Finsterer recommended subtotal resection of the stomach with resection of the right wall of the esophagus, with the esophagus sutures surrounded by the fundus which was wrapped around it. Yet the mortality of this operation was quite high. In 1930,[55] Finsterer therefore recommended that total gastrectomy be done for advanced cases. In a recent communication,[56] he compared results and showed that whereas subtotal resection, including resection of the right esophageal wall, had 74.5 per cent mortality (55 cases with 41 deaths), and the mortality of total gastric resection was 79.2 per cent up until 1941 (37 cases with 29 deaths), during the last 5 years it dropped to 48 per cent (52 cases with 25 deaths) because of improvement in the technic of the operation. After extirpation of the stomach, an end-to-side anastomosis is done between the esophagus and a 20 cm. long jejunal loop, which is brought up through a slit in the mesocolon into the upper abdominal cavity; a wide enteroanastomosis is added, through which not only the disadvantages of a retrograde filling of the afferent stem are avoided, but also a large cavity is created, acting as a substitute stomach. On the resected specimen one can demonstrate the pylorus and a strip of the duodenum and a narrow strip of esophageal mucosa as evidence of a true total gastrectomy. In 1946 a recheck was made on 35 patients who had survived the operation. Eight patients could not be traced, and four had died of intercurrent disease one to four years after operation without signs of recurrence. In 14 cases there was recurrence, mostly in the liver. Nine patients remained cured up to the time of the recheck; three patients were operated on more than five years ago and can, therefore, be considered as long standing cures. The same is true for an additional two patients who were operated on on June 27, 1941 and on July 4, 1941, and were alive and without recurrence in December, 1946. These figures seem to indicate that despite high operative mortality, total gastrectomy is an operation of value in selected cases.

* * * * * * * *

Up to now we have concerned ourselves with the history of subtotal gastrectomy and a recital of Finsterer's personal experience with total gastrectomy. The evolution of total gastrectomy must still be considered. As the name implies, the stomach is completely removed, and an anastomosis is attempted between the esophagus and duodenum, or esophagus and jejunum. However, confusion has developed in the use of these terms. In 1898, Krönlein[57] defined his operation for gastric carcinoma as "total gastrectomy," whereas it really involved only partial resection of the stomach. Because of this confusion of terms, many cases reported in the medical annals as total resections actually are only subtotal resections. Billroth himself erred in defining the resection of the stomach and anastomosis of the cardia to the pylorus as "total," since the preservation of the smallest portion of the cardia or pylorus does render the resection anatomically subtotal.

However, the feasibility of a true "total" resection was advocated as early as 1880 by Albert, while discussing a paper by Frank on pyloric resection. He had performed this operation on a cadaver and a living dog with success, and gave Professor Nicoladoni credit for performing the first total gastrectomy on a living man; however, we have no official confirmation on this. Conner[58] of Cincinnati, in 1884, is credited for the first known total gastrectomy on man, but his patient died during the operation. The first successful resection was done by Schlatter of Switzerland, on a 56 year old woman. He performed an esophagojejunostomy which functioned well, but death occurred after one year and 53 days from recurrence of cancer.

Another American, Brigham,[59] performed the second total gastrectomy in 1898. He studied his patient for two postoperative years before death and observed that complete removal of the stomach retarded normal hematopoiesis. In 1907, this conviction was

confirmed by a patient of Lord Moynihan,[60] a man of 43, who had profound anemia when he died three years and eight months after total gastrectomy with an esophagojejunal anastomosis.

The third successful case was done by Richardson,[61] also an American, in 1898. Apparently he anastomosed the esophagus and duodenum, but the patient developed a postoperative fistula at the anastomic junction, demonstrated at autopsy nine months later.

The natural hazards of the procedure are sufficient to instill extreme caution; the added danger of a foreign body in the suture line is therefore easily understood. Yet at the beginning of the 20th Century, the Murphy button was used frequently in all forms of gastro-intestinal anastomosis. Four out of every five patients in whom this method was employed, died of peritonitis. However, two other cases were noted, wherein a calcified bone bobbin was used successfully.

MacDonald,[62] in 1898, who performed the fourth successful operation, noticed that his patient had a persistent postoperative diarrhea. This finding was confirmed in 1928 by Flint,[63] who was able to prove that such light, liquid stools were indicative of a deficiency of fat metabolism. Harvie[64] demonstrated in 1906 that a patient with total gastrectomy could still enjoy good food, being able to eat roast beef and mashed potatoes within six weeks after operation.

Dollinger[65] of Budapest, in 1901, reported the first long-term survival, his patient having lived almost five years while working as a policeman. However, the oldest reported survival to-date (1943) is a patient of Stahnke,[66] a woman of 39, who lived eight years after total gastrectomy.

In studying the evolution of this procedure, many of the basic principles propounded by early operators of total gastrectomy were brought to light. For example, in 1903 Moynihan[67] sutured the jejunum to the diaphragm for suspension; Hans Brun, in 1912, first removed the spleen at the time of total gastrectomy; and in 1933 Schmieden[68] developed diaphragmatic flaps to cover the line of anastomosis.

Most total gastrectomies have been performed through laparotomies; however, the modern tendency advocates the transthoracic approach. This method, the incisional route through thorax and diaphragm to the stomach, is especially helpful when the cancer is very high up, as in the cardia, or when it has invaded the esophagus. Churchill[69] employed this method successfully, and the basic principles of his operation have been fully developed. After resection of the stomach, the anastomosis of the esophagus and jejunum is practically located in the thoracic cavity. The exceptional exposure afforded by this incisional route may influence popular acceptance by surgeons of this procedure for total gastrectomy.

In conclusion, it would seem appropriate to mention that vagotomy or some similar operation may eventually take the place of partial gastrectomy for treatment of intractable duodenal ulcer. However, subtotal or total gastrectomy still will have to be done for gastric ulcer and gastric malignancy, at least, until such time when a general medical cure for cancer is discovered. Thus, it will be some time before this operation becomes obsolete, and it would behoove all surgeons to acquaint themselves with the fundamental facts in the evolution of this important surgical procedure. It also would be of additional benefit if such surgeons would explore in greater detail the possibilities of the transthoracic approach.

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IMPORTANT

Reservations should be made **immediately** for travel to the Rome Assembly, which will be held May 16–29, 1948, **At the Invitation of the Italian** Government, under the presidencies of **Profs. Rafaele Bastianelli, Rafaele Paolucci, Mario Dogliotti,** and the secretaryship of Prof. Giuseppe Bendani. For travel details, address:

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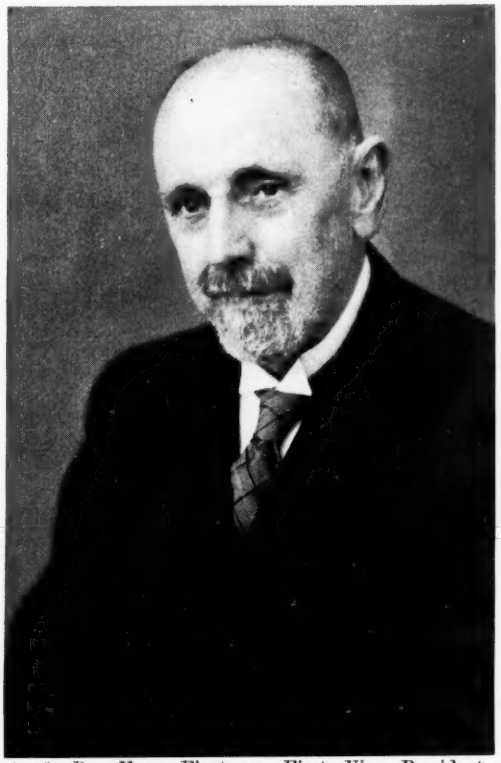
Honoring the Seventieth Birthday of
Prof. Dr. Hans Finsterer



Prof. Dr. Hans Finsterer, First Vice President, Austrian Chapter, International College of Surgeons.

Prof. Finsterer was born in Weng, a small town in upper Austria, on June 24, 1877. His parents were farmers and were poor. In his nineteenth year he began the study of medicine in Vienna, 1896 to 1901, and received his doctor's degree in 1902. He was made assistant to Prof. Hochenegg in 1903 at the University surgical clinic in Vienna, and held this position until 1906, when he left to become assistant to Prof. Hacker of Innsbruck to work at the University of Graz. In 1909, Finsterer returned to Vienna to work under Prof. Hochenegg again as assistant. This earned for him the rank of Dozent in 1913, and the appointment of lecturer in surgery at the University of Vienna. After that time he was only able to work in privately owned hospitals. In 1920, he became Professor Extraordinary. However, in 1935 he was appointed surgeon-in-chief of all of the official state hospitals of Austria.

His contributions to surgical literature number some 250 papers, the first of them published in 1905. Some of the most important contributions are the following:

1. "Injuries to the Liver," Deutsche Ztschr. f. Chir. 118:1, 1912, wherein it was stated for the first time that bradycardia is a sign of resorption of bile through the peritoneum.
2. "Local Anesthesia in Laparotomies," Bruns Beitr. z. klin. Chir. 81:266, 1912,

a subject to which he devoted the remainder of his life. In 1923 he wrote a comprehensive work on this same topic, entitled "Die Methoden der Lokalanesthesie in der Bauchchirurgie (Urban and Schwarzenberg, 1923). This monograph was translated into English and was published by Rebman and Company, New York.

3. The greatest contribution, through which he became world-famous, was the development of a method of gastric resection, known as the Hofmeister-Finsterer modification. Partial gastrectomy is performed, the duodenum is closed blindly and a retrocolic end-to-end gastrojejunostomy is made with closure of the upper portion of the stomach stump. This was described for the first time in the Deutsche Zeitschrift für Chirurgie in 1914 (128:514).
4. In 1918, Finsterer proposed more radical resection of the stomach, two thirds to three fourths of the organ, so as to reduce the acidity of the stomach, especially in cases of bleeding peptic ulcer. If the ulcer could not be resected as in those of the duodenum, his "exclusion resection" was done (Wien. klin. Wchnschr. page 521, 1918).

Other papers followed on gastrectomy for cancer of the stomach, and on malignant changes in gastric peptic ulcer; he pointed out the poor prognosis for cases with such malignant changes as early as 1930. Papers then appeared on surgery of the biliary tract, the gallbladder and cholecyst—duodenostomy. Hemicolectomy for chronic constipation (Arch. f. Chir. 138:449, 1925), and combined surgery of the rectum and colon, employing the abdominosacral approach, in which the sphincters were saved to preserve continence without detracting from the radical nature of the resection (Arch. f. Chir. 202:15, 1941), followed.

Hans Finsterer's fame as surgeon earned him many honors. In 1933, he became a member of the Society for Surgery of Piedmont; in 1934, an honorary member of the Academy of Medicine of Bucharest; in 1935, an honorary member of the Société Royale de Medicine of Ghent; in 1938, an honorary member of the Society of Medicine, London and of the Société nationale de Chirurgie of Paris; and in 1947, Vice-President of the newly formed Austrian chapter of the International College of Surgeons.

During the occupation of Austria, Finsterer stood upright and took no part in any political affiliation. His courage and love for the dignity of his fellow man, guided by a pious heart, did not permit him to neglect, during those dark years, the laws of humanity to which the medical profession subscribes throughout the entire world.

The Surgical Treatment of Extradural Hematoma

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EXTRADURAL hemorrhage is a rare but important complication of head injury. According to Munro,[1] it occurs in only 3 per cent of all head injuries, but it is important to a much greater degree as a cause of death. Rowbotham[2] found only 13 cases of middle meningeal hemorrhage in 1,000 consecutive cases of head injury. In his series, extradural hemorrhage only accounted for 2 per cent of deaths. Vance,[3] however, listed it as the cause of death in 61 (12 per cent) of 512 fatal cases. Kearns[4] found it to be the cause of death in 93 (18 per cent) of 510 cases dying after head injury.

This report concerns 22 consecutive cases of extradural hemorrhage operated on by me. Eighteen are from the neurosurgical service at the Cook County Hospital, four from private practice. They represent a 10 year period, 1936–1945. Fifteen of the clots were on the right side, seven on the left. There were no bilateral extradural clots in this series.

Extradural hemorrhage is always of traumatic origin. It is nearly always associated with skull fracture. Kearns[4] was able to demonstrate skull fracture in all but one of 93 cases of extradural hemorrhage which he examined after death. Gross and Savitsky[5] gave the incidence of skull fracture in middle meningeal hemorrhage at 85 per cent. Munro and Maltby[6] stated that all extradural hematomas are associated with fracture of the skull. Skull fracture was demonstrated at operation in all of the cases in this series.

It has been generally supposed that extradural hemorrhage was always of arterial origin and from the middle meningeal artery. However, a number of authors have refuted this conception. Gross and Savitsky[5] reported three cases of extradural hemorrhage in the anterior cranial fossa. They considered the origin of these clots to be the anterior meningeal artery, which is a branch of the anterior ethymoidal artery. These cases were part of a series of 22 cases of extradural hemorrhage that the authors had encountered in a seven year period.

Verbrugghen[7] emphasized that not all extradural hemorrhages are arterial. He called attention to the anatomic studies of Wood Jones[8] on the skull markings of the meningeal vessels and his findings that the markings were largely due to the veins and not the arteries. Munro[1] stated that in a series of 37 extradural hematomas, 10 were of venous origin. Voris[9] reported a case of extradural hemorrhage from a torn lateral sinus. Reichert and Morrissey[10] reported two cases of extradural hemorrhage from a torn venous sinus, one from the lateral sinus, another from the longitudinal sinus. Gurdjian[11] reported 19 cases of extradural hemorrhage. In 16, the source of bleeding was from the middle meningeal, in 2 from the anterior meningeal and in 1, from the lateral sinus.

Turnbull,[12] Kessel,[13] McKenzie[14] and Coleman and Thompson[15] each reported cases of extradural hemorrhage in the posterior fossa. Kessel's case was due to a tear in the transverse sinus, that of Coleman and Thompson to injury of the torcular Herophili. McKenzie and Turnbull did not state the origin of the hemorrhage in their cases.

There can be no doubt that the middle meningeal artery is the most common source of extradural hemorrhage. King[16] stated that the origin is usually from the posterior branch. In the present series this was true. The posterior branch of the middle meningeal artery was torn in seven cases, the anterior branch of this artery in five and the main trunk in two. A tear in the lateral sinus was the source of the hemorrhage in two patients, and in six the origin was not clear but was thought to be venous.

From surgical experience with postoperative extradural hemorrhage it would appear that a small initial hemorrhage, either from a small arterial branch on the dura or from torn diploic veins in a skull fracture, might

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start dissection of the dura from the bone and progressively tear emissary veins between bone and dura. Even though the initial hemorrhage is spontaneously stopped, the progressive rupture of emissary veins would produce gradual growth of the clot with continued tearing of more emissary veins. This method of growth accounts for some of the cases in which the symptoms of extradural hemorrhage develop gradually over several days to a week or more, simulating a chronic subdural hematoma. King [16] and Wakely and Lyle [17] have referred to such cases.

Extradural hemorrhage occurs predominately in males and between 20 and 50 years of age. Gross and Ehrlich [18] state that three fourths of the reported cases are males. Males are, of course, more subject to head trauma than females, and yet this does not account for the discrepancy between the two sexes noted in the literature. In this series all patients were males. Table 1 shows occurrence and mortality by decades of life. Mortality was greatest in older patients; 8 of 10

Table 1.—Mortality and Distribution by Decades of 22 Cases of Extradural Hemorrhage

	Total	Living	Dead
10–19	4	3	1
20–29	3	3	0
30–39	3	2	1
40–49	11	4	7
50–59	1	0	1
	22	12	10(45%)

deaths occurring in patients over 40. In 10 patients under 40, mortality was 20 per cent; in 12 patients over 40, mortality was 66 per cent.

Extradural hemorrhage is extremely rare in the young and in the old. In children and in the aged, the dura is not readily separated from the skull; this undoubtedly prevents the ready dissection of dura from the bone, which is essential if extradural bleeding is to become clinically significant.

The typical history and symptoms of middle meningeal hemorrhage are described in most surgical textbooks and are familiar to all. An adult male receives a blow on the head with loss of consciousness. He regains consciousness within a few minutes to an hour and then complains of severe headache. Nausea and vomiting may occur. Then, during the next 6–12 hours progressive stupor, often with preliminary restlessness or confusion, develops. Progressive hemiparesis develops with dilation of the pupil contralateral to the hemiparesis. Convulsions may occur and are usually confined to or predominate on the paretic side. Frequently pulse and respirations become slow, and the blood pressure is elevated. Roentgenograms of the skull frequently show a fracture line on the side of the dilated pupil crossing the groove of the middle meningeal vessel.

Unfortunately, most cases of middle meningeal hemorrhage do not show this typical syndrome. Two other general syndromes occur. In one the onset of symptoms is slow and may extend over several days to a week or more. In these patients the initial arterial hemorrhage is probably from a small branch of the middle meningeal artery. This initial hemorrhage stops spontaneously, but not before there has been some separation of dura from bone with rupture of emissary veins. Hemorrhage from these also stops spontaneously, but not before further separation of the dura from the bone has ruptured still more emissary veins. Thus the clot slowly grows by progressive hemorrhage from successively ruptured veins, and gradually clinical signs of progressive drowsiness and stupor, slowly developing hemiplegia, etc., appear. These cases simulate clinically subacute subdural hematoma and, in fact, cannot be differentiated from that lesion preoperatively. They differ from the so-called typical cases in that the lucid interval and the period of development of symptoms are greatly prolonged.

Another type of syndrome is that in which there is no lucid interval. Because of severe brain injury, the patient is in coma from the onset and never regains consciousness spontaneously. The recognition of the presence of extradural hemorrhage is based on progressive hemiparesis, dilation of the pupil

contralateral to the hemiparesis and perhaps convulsions, slow pulse and high blood pressure. Progression of symptoms is common to all cases and is the key to the recognition of extradural hemorrhage. Spinal fluid findings are not diagnostic. The fluid may be clear or blood-tinged in the first group of cases (short lucid intervals). In cases with a prolonged lucid interval it may be xanthochromic. It is generally bloody in cases without a lucid interval, since these cases have severe brain injury, either contusion or laceration.

Table 2 shows distribution of these three types of syndrome in the present series and the mortality. As might be expected, best

TABLE 2.—CLASSIFICATION OF CASES OF EXTRADURAL HEMORRHAGE WITH MORTALITY ACCORDING TO TYPE OF SYNDROME

	Total	Living	Dead
Type 1 short lucid interval (1–24 hrs.)	9	7	2
Type 2 prolonged lucid interval (1–18 days)	7	4	3
Type 3 No lucid interval	6	1	5
Total	22	12	10

results are obtained in Type 1, where brain injury is minimal as indicated by the brief initial loss of consciousness. In Type 2, mortality is higher, probably because of failure to recognize the condition in some cases before serious damage to vital centers had taken place. In Type 3 with severe associated brain injury, mortality is very high, in fact prohibitive.

The relationship of associated brain injury to mortality can, of course, be stated more directly. Cerebral contusion or laceration of the brain was noted at operation or autopsy in 13 patients. Seven of these died, a mortality rate of 55 per cent. On the other hand, there were only three deaths in the nine cases without brain injury, a mortality rate of 33 per cent.

Table 3 classifies the clots according to their size. It is apparent that the size of the clot

TABLE 3.—CLASSIFICATION OF CASES OF EXTRADURAL HEMORRHAGE WITH MORTALITY ACCORDING TO SIZE OF CLOT

Thickness of Clot	Total Cases	Living	Dead
2–3 cm.	8	6	2
3–4 cm.	5	2	3
4–5 cm.	5	2	3
5+ cm.	4	2	2
Total	22	12	10

is not as important in determining mortality as some of the other factors discussed. However, the mortality for the small clots was significantly lower.

TABLE 4.—OCCURRENCE OF VARIOUS FINDINGS IN 22 CASES OF EXTRADURAL HEMORRHAGE ACCORDING TO THE VARIOUS TYPES OF SYNDROMES

Symptoms	Type 1	Type 2	Type 3	Total Cases
Total Cases	9	7	6	22
Abnormal reflexes	8	4	6	18
Hemiparesis	7	5	4	16
Contralateral	7	4	3	14
Homolateral	0	1	1	2
Unilateral dilation of pupil	8	4	4	16
Contralateral	1	1	..	2
Homolateral	7	3	4	14
Bradycardia	3	5	2	10
Convulsions	1	1	2	4
Papillo-edema	..	2	..	2
Cerebrospinal fluid	2	7	6	15
Bloody	1	1	4	6
Xanthochromic	..	5	1	6
Clear	1	1	1	3

Table 4 gives the occurrence of various findings in the 22 patients and in the three syndromes into which they were classified (Table

2). Some type of abnormal reflex changes indicating a pyramidal tract lesion was found in 18 patients. Frank hemiparesis was found in 16. It was contralateral to the lesion in 14 and homolateral in 2. In these two, the clot probably dislocated the brain with pressure on the contralateral crus cerebri by the free edge of the incisura of the tentorium.

Unilateral dilation of the pupil was also seen in 16 patients. It was homolateral to the lesion in all but two. In these two, the dilated pupil was contralateral to the lesion. In one of the cases there was no hemiparesis; in the other there was a contralateral hemiparesis. In the two cases of homolateral hemiparesis there was also homolateral dilation of the pupil. Thus it is apparent that neither hemiparesis nor unilateral dilation is a constant localizing sign, although generally both are dependable. Most authors have emphasized the value of unilateral dilation of the pupil as a localizing sign in extradural hemorrhage. According to Chance,[19] Sir Jonathan Hutchinson called attention to this in 1865. The inequality of the pupils in head injury has been referred to as the "Hutchinson pupil." When dilation of the pupil occurs, it is likely due to direct pressure on the oculomotor nerve by the clot or to herniation of the hippocampal gyrus through the incisura of the tentorium against the brain stem and oculomotor nerve. Woodhall, Devine and Hart[20] discussed the significance of homolateral dilation of the pupil and homolateral hemiparesis and reviewed the literature on the subject. They concluded that the unilateral dilated pupil remained the most valuable lateralizing sign.

Slowing of the pulse to below a rate of 60 was seen in 10 patients, nearly half of the series. It occurred most often (five patients) in the cases with a prolonged lucid interval. Convulsive seizures were only seen in four patients, a surprisingly low number (18 per cent). In a series of 100 subdural hematomas, convulsions were noted in 29 per cent (Voris[21]). Papillo-edema was only seen in two cases; as might be expected, these were both patients with a prolonged lucid interval.

The cerebrospinal fluid findings were of interest. Spinal puncture was performed in 15 cases. The fluid was grossly bloody or blood-tinged in six patients, four of whom had no lucid interval. It was xanthochromic in six patients, five of whom had a prolonged lucid interval. In three patients the fluid was clear. There was one of these patients in each of the three groups described.

A review of Table 4 shows that there is no significant difference in the frequency of various neurologic findings in the three syndromes described. There is a characteristic difference in the spinal fluid findings in the three groups, as pointed out.

Treatment of extradural hematoma is operative. The clots can either be evacuated through a subtemporal decompression or an osteoplastic craniotomy. The latter is theoretically preferable, because it does not leave the large bony defect that a decompression does. However, many of these patients are poor operative risks and should not be subjected to osteoplastic craniotomy. A decompression can be carried out more quickly with less operative shock, and the resultant skull defect can be repaired at a later time after the patient has recovered from his injury.

The initial operative step should be an exploratory bur hole on the suspected side. Local infiltration of the scalp and temporal muscle with procaine is usually sufficient anesthesia. If necessary, this may be supplemented by intravenous sodium pentothal. In our experience the localizing signs are usually so definite that it is not necessary to plan bilateral exploration. This is contrary to the experience in subdural hematoma, where bilateral exploration should always be carried out. The initial bur hole may be made through a vertical incision 2 cm. in front of the ear and 5–6 cm. above the zygoma. Practically all extradural clots except the rare ones in the anterior or posterior fossae will be disclosed by such a bur hole. If a clot is disclosed and it is apparent that the bur hole is centered over the clot, the vertical incision may be enlarged into a question mark or hockey-stick incision and a muscle-splitting type of subtemporal decompression carried out. If the clot is posterior to the bur hole, the incision may be transformed into a horseshoe incision centered above the ear and a

musculocutaneous flap of scalp and temporal muscle reflected. Then subtemporal decompression may be performed. This latter incision also permits the reflection of a small osteoplastic flap, if desired.

Bone should be widely removed over the clot or an osteoplastic flap should be reflected, before actual removal of the clot is begun. Otherwise the surgeon may be faced with the problem of controlling active bleeding through an inadequate exposure. Control of the arterial hemorrhage, if it is active after evacuation of the clot, can be accomplished in most cases by electrocoagulation. If electrosurgical apparatus is not available, a suture on a fine curved needle may be passed around the vessel. Care must be taken not to injure the underlying cortex or its vessels. In one case it was necessary to plug the foramen spinosum with bone wax, as the middle meningeal artery had been torn at that point. The clot had so retracted the temporal lobe that visualization of the foramen spinosum was readily accomplished, although suction was of course necessary to clear the field. An adequate suction apparatus with a suitable tip is essential in one of these operations. Adequate light for the operative field is also necessary. A good head light or lighted brain retractors are of great value. Rarely, in order to control middle meningeal bleeding, it may be necessary to ligate the external carotid artery in the neck, as suggested by Munro[1] and Verbrugghen.[7]

After the arterial bleeding has been controlled, the surgeon will be faced with multiple venous hemorrhages from torn dural emissary veins and from the under surface of the bone, wherever the dura has been separated from it. Such bleeding is often most marked inferiorly and anteriorly toward the sphenoid ridge and the sphenoparietal dural sinus, and inferiorly and posteriorly toward the lateral sinus. Where exposure is adequate, the dural bleeding points can be coagulated with the high frequency current. Wide decompression extending as far as possible over the clot controls the bleeding from the under surface of the bone and permits adequate control of dural bleeding. Often it is necessary to pull the dura up to the bone edge by interrupted sutures between the dura and the temporal muscle, periosteum, or galea of the scalp. Not infrequently a gauze pack between dura and bone may be necessary, especially in the region of the sphenoparietal and lateral sinuses. If this is necessary, it should be removed 36 hours later.

Opinion varies on the advisability of opening the dura. Some authors claim it should not be opened unless absolutely necessary, others open it routinely and widely for purposes of decompression. If there is discoloration of the dura indicating an underlying subdural hematoma, it should certainly be opened for evacuation of that clot. It may then be resutured or left open, as desired. In four of my cases there was significant subdural hemorrhage which required evacuation. The occasional operator will do well to avoid opening the dura if possible, but in competent hands there is no reason why it should not be opened. However, there seems no reason to leave it open for decompressive purposes. If evidence of increased intracranial pressure develops postoperatively, it can be controlled by administration of hypertonic solutions intravenously, or by spinal drainages. Closure of the wound should be meticulous. The temporal muscle and fascia should be closed carefully with interrupted silk or cotton sutures, and then the galea and scalp sutured separately in the same way.

Convalescence is often stormy and prolonged, especially in cases where severe brain injury is present. Good nursing care will save many patients that might otherwise perish. Tube feeding should be instituted if coma is prolonged.

Late repair of the skull defect may be performed in cases where subtemporal decompression was carried out. This is an elective procedure and will not usually be necessary. It was done in two cases in this series; in one because of persistence of subjective symptoms of headache, dizziness on postural change and of local pain in the area of the decompression; in another at the insistence of patient and family. Both of these cases have been previously reported (Voris[22]).

CONCLUSION

Extradural hemorrhage is usually arterial but may be venous in origin. The clots are generally in the temporal region extending into the frontal or parietal, but they may be anywhere in the intracranial cavity, even in the posterior fossa. The hemorrhage is always the result of injury and is usually associated with skull fracture.

There are three principal syndromes of extradural hemorrhage. The most important factor in determining the type of syndrome is associated brain injury, but the rate of bleeding is also important.

Treatment is surgical, but even with prompt treatment and skilled hands mortality is high. Next to prompt recognition of the lesion with early operation, age and associated brain injury are the most important factors in determining mortality. It is the responsibility of the medical profession and particularly of surgeons to bend every effort to the early recognition and surgical treatment of this rare but important surgical complication of head injury. When doubt exists about the presence of extradural hemorrhage, the exploratory bur hole should be resorted to without delay.

RÉSUMÉ

L'hémorrhagie extradurale ordinairement est d'origine arteriel, rarement d'origine veineuse. Les caillots sanguins se trouvent généralement dans la région temporale, mais peuvent intéresser les région frontales et pariétales. On peut les rencontrer dans toules les régions de la cavité cranienne. L'hémorrhagie résulte toujours d'un traumatisme et la plupart du temps est accompagnée d'une fracture de la boîte osseuse. Il y a trois principaux syndromes de l'hémorrhagie extra-durale. Le facteur le plus important est la lésion cerébrale concomitante. Le degré de rapidité d'hémorrhagie doit être considere.

Le traitement est chirurgical, mais même dans les mains des experts la mortalite est élévee. L'âge du malade et l'etendue des lésions cérébrales son des fracteurs importants de la mortalite. Il importé d'opérer aussitôt le diagnostie établi. Il est de la plus haute importance de reconnaître la condition et d'opérer sans retard. Quand on est dans l'incertitude sur las présence d'une hemorrhagie extradurale, il faut sans délai recourir, à une perforation exploratrice.

RIASSUNTO

Gli ematomi extradurali riconoscono generalmente un'origine arteriosa, ma possono avere anche un'origine venosa. I coaguli si raccolgono di solito nella regione temporale, estendendosi verso le regioni frontali o parietali, ma possono avere una qualsiasi sede, perfino nella fossa posteriore. L'emorragia è sempre la conseguenza di un trauma ed è generalmente associata con una frattura del cranio.

Vi sono tre principali sindromi. Il fattore più importante nell'influire sul tipo della sindrome è la lesione concomitante del cervello, ma anche l'entità dell'emorragia ha la sua importanza.

La terapia è chirurgica: ma anche con l'intervento più precoce e con la più grande abilità la mortalità è elevata. Questa dipende nella sua percentuale anzitutto dalla diagnosi precoce e dalla tempestività dell'operazione, in secondo luogo dall'eta edalle lesioni cerebrali.

I medici e più specialmente i chirurghi dovrebbero fare ogni sforzo per riconoscere in tempo e per intervenire subito. Quando l'esistenza di questa rara ma importante complicazione delle lesioni cefaliche è in dubbio, una trapanazione esplorativa dovrebbe essere immediatamente eseguita.

SUMARIO

Las hemorragias extradurales son en general de origen arterial. En la gran mayoria de los casos los coagulos se encuentran en la región temporal y se extienden a la región parietal o frontal; pero tambien pueden presentarse en cualquier región de la cavidad resultado de un traumatismo y es usual el intracranial. La hemorragia es siempre el que este acompanado por fractura del craneo.

Hay tres sindromes principales de hemorragia extradural y el factor mas importante en el diagnostico del sindromo presente es el traumatismo cerebral, aunque es tambien de

(Continued on page 665)

Hemicolectomy and Proctosigmoidectomy with Transplantation of Transverse Colon to Anus†

A Report of Eight Cases

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MANY years of life have been afforded innumerable persons because they have accepted a form of surgical therapy of which the establishment of a permanent abdominal colostomy was an integral part. In the average case, where the surgeon has fashioned a technically correct colostomy and has educated the patient in the proper care of it, an abdominal colostomy has been compatible with a relatively normal life.

No one, however, desires an abdominal colostomy. If a surgical procedure which does not embody a colostomy can be substituted for an operation which necessitates one at a comparable chance of cure, risk and functional result, it would seem reasonable to accept the surgical maneuver not requiring a colostomy. Up to Oct. 1, 1946, 400 resections of various types were performed for lesions of the lower bowel. Of this number, there were 324 cases in which no type of colostomy was performed, as set forth in Table 1.

In any case, the operative procedure must be adapted to the patient rather than the patient to the operation. The surgeon must have at his disposal a wide variety of procedures, if he is successfully to individualize the surgical care of his patients.

It is our purpose to describe an experience with a one-stage operation, which, while limited in its applicability, seems to be the procedure of choice. It has served in some instances to avoid a colostomy and in others to eliminate an unsatisfactory one. Through a long left rectus incision, the distal portion of the transverse colon, the splenic flexure, descending colon, sigmoid and rectum are mobilized. Particular attention is given to preservation of the arterial arcades anastomosing with the middle colic artery. For this maneuver transillumination is of utmost value. Following closure of the abdomen, the perineal portion of the operation is performed in an identical fashion to that in proctosigmoidectomy preserving the sphincter musculature.

TABLE 1.—RESECTION WITHOUT COLOSTOMY

	No.	Deaths	Mortality Rate
Abdominoperineal proctosigmoidectomy for cancer	274	15	5.4%
Abdominoperineal proctosigmoidectomy for L. V. stricture	19	0	0
Abdominoperineal proctosigmoidectomy for diverticulitis	2	0	0
Abdominoperineal proctosigmoidectomy for endometrioma (rectosigmoid)	1	0	0
Perineal proctosigmoidectomy for procidentia	1	0	0
Anterior resection for cancer	24	2	8.3%
Anterior resection for diverticulitis	4	1	25.0%
Totals	325	18	5.5%

The mobilized bowel is withdrawn through the perineal wound until the distal transverse colon is brought into view. An anterolateral pelvic floor is established and the protruding

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rectum, sigmoid, descending colon and splenic flexure amputated. The operation has been performed on eight patients without mortality. Four illustrative cases are cited in detail.

TABLE 2.—TRANSPLANTATION OF TRANSVERSE COLON TO ANUS

	Race	Sex	Age	Diagnosis	Deaths
C. B.	W	M	32	Polyposis with malignancy	0
G. R.	W	M	63	Extensive diverticulitis with stricture formation	0
E. A.	W	F	42	Polyposis with malignancy	0
S. M.	W	M	28	Carcinoma (Miles resection)	0
W. J.	W	M	35	Adenocarcinoma (Hartmann operation)	0
B. S.	C	F	46	Extensive inflammatory stricture of rectum and colon.	0
M. L.	W	F	32	Ulcerative colitis and malignancy	0
C. B.	C	F	57	Malignancy	0

CASE REPORTS

Case 1.—C.B., male, 32, cited a history of bleeding at the time of stool for a period of four years. Other than slight frequency, the bowel habit was regular. Past and family history were irrelevant. He had consulted several physicians, one of whom had during the past year fulgurated 22 polypoid growths in the rectum. Repeated opaque enema studies were reported as negative. Quite recently, because of continued bleeding, reexamination disclosed a number of growths in the rectum and sigmoid. Histopathologic report was "adenomatous polyp with active proliferation." Resection was advocated, but was refused because of the proposed abdominal colostomy. Our first examination on Sept. 16, 1946, showed approximately two dozen tumors in the rectum and sigmoid, on the basis of which an abdominoperineal proctosigmoidectomy with preservation of the sphincter muscles was advised. The patient was hospitalized and prepared in the customary manner. At operation on Oct. 3, 1946, a growth the size of a small cherry was palpable at the junction of the descending colon and sigmoid and a suspicious process of similar dimensions in the splenic flexure. (X-ray examination prior to and following admission had given no evidence of polyps.) A left hemicolectomy and proctosigmoidectomy were performed with transplantation of the mobilized distal transverse colon to the anus. The bowel specimen, 68 cm. long, was reported "multiple papillomatosis with malignant invasion in the body of the polyp but no invasion of the stalk." The proximal bowel was free from tumors. The patient was out of bed on his sixth postoperative day and discharged on the fourteenth.

Case 2.—E.A., woman, 42, had for the past seven years passed bright red blood with her stools. Five years ago she consulted a physician who removed several polyps from her rectum and informed her that they were benign. Her rectal bleeding continued, and one year ago her physician advised her to have a resection of the rectum with a permanent colostomy. This she summarily refused. She consulted a second physician who acquainted her with the probable malignant nature of the disease and advised her to have an abdominoperineal proctosigmoidectomy without colostomy and with preservation of the sphincter mechanism. Her grandfather, uncle, mother and sister had died of carcinoma of the rectum. On proctosigmoidoscopic examination, the rectum and lower sigmoid were found to be studded with small adenomas. A barium enema with air insufflation disclosed polyps in the upper sigmoid and descending colon. At operation rectum, sigmoid, descending colon and splenic flexure were excised. The stump of the transverse colon was transplanted to the anus. The sphincter mechanism was preserved. The pathologist reported an ulcerating adenocarcinoma, grade II (Broder's classification) in the upper sigmoid and a malignant adenoma in the descending colon. The many adenomas in the rectum were benign. Convalescence was uneventful. She was discharged from the hospital, walking, on the thirteenth postoperative day.

Case 3.—W.J., male, 35, had passed bright red blood with his stools for the previous six weeks. A barium enema had been done two years ago, and no abnormal findings were noted. Because of a recent protrusion from his rectum and a continuation of his bleeding, he again sought medical aid. He had lost 3 lb. in the past month. On sigmoidoscopic examination, a polypoid mass about the size of a cherry was seen 20 cm. above the anus. As an incidental finding prolapsing internal hemorrhoids were seen. At operation a sigmoidotomy was performed, and three papillary adenomas were removed from the sigmoid and descending

colon. Two of them were described by the pathologist as malignant adenomas. A rather extensive incision was made into the sigmoid in an effort to discover further polyps. Due to technical difficulties, there was more soiling than such a procedure usually entails, and it was thought expedient to complete the operation as a Hartmann type resection. Accordingly, the rectosigmoid, sigmoid and a portion of the descending colon were excised, and the end of the descending colon was brought out as a single-barreled colostomy. The closed rectal stump was buried beneath the peritoneum of the pelvic floor. Convalescence was without complication.

Despite our best efforts to dissuade him, the patient insisted on having his colostomy closed and the continuity of his bowel restored. At operation his colostomy was dissected free and closed. The remainder of the descending colon, the splenic flexure and the transverse colon were mobilized. The rectal stump was dissected free to the tip of the coccyx. In the perineal phase, the skin of the anal canal and the external sphincter muscle were preserved. The rectal stump, the remainder of the descending colon, the splenic flexure and a portion of the transverse colon were excised and the transverse colon transplanted to the anus. Postoperatively, he was febrile for 12 days. He was discharged from the hospital, walking, 18 days after operation. During the two months since operation, he has been pleased with his satisfactory bowel function.

Case 4.—G.R., male, 63, was seen after he had abdominal cramps, fever and moderate constipation for two weeks. He had been treated conservatively in his local hospital and had recovered to the extent that he was ambulatory. On

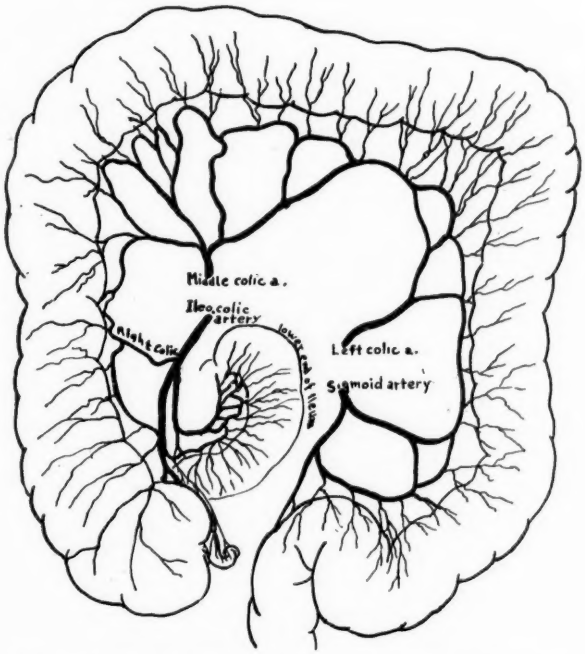

Fig. 1. Arterial pattern of large bowel. In performance of left hemicolectomy and abdominoperineal proctosigmoidectomy as one-stage procedure, without colostomy and with preservation of sphincter muscle, middle colic artery is preserved with communicating arcades. Inferior mesenteric artery is ligated close to its origin, thus sacrificing left colic and all sigmoidals.

physical examination there was tenderness and a suggestion of a mass in his left lower abdomen. A barium enema revealed diverticulitis of the sigmoid and lower descending colon. Operation disclosed a markedly thickened and indurated sigmoid and lower descending colon, which were covered with a mucinous exudate. The rectosigmoid, the sigmoid and a portion of the descending colon were excised. The closed rectal stump was buried beneath the peritoneum of the pelvic floor. The end of the descending colon was brought out as a single-barreled colostomy. The pathologist found a markedly thickened colon with multiple diverticuli and intramural abscesses. The lumen was markedly narrowed.

This patient was unable to perform his duties as a glass blower because of his colostomy. He insisted on having it closed and the continuity of his intestinal tract restored. His second operation, an abdominoperineal procedure exactly like that used in Case 2, consisted of the excision of the rectal stump, the remainder of the descending colon, splenic flexure and a portion of the transverse colon. The operation was completed at the same stage by transplanting the transverse colon to the anus with preservation of the sphincter mechanism. After an uncomplicated convalescence he was discharged from the hospital 14 days after operation. Two months after the second operation, he returned to work as a glass blower.

COMMENT

In the first two cases, the growths in the rectum, and the two malignant polyps in the sigmoid and descending colon were removed by excising all bowel distal to the transverse colon. The patients' bowel function after operation was satisfactory according to their statements and our observations. Even if these patients had been willing to accept a colostomy, we know of no other operation which could have been applied more appropriately.

In the third case the operation was done because the patient insisted on having his colostomy closed. His reasons were on an emotional basis, and every effort was made to dissuade him. It was explained to him that the operation was a formidable one with an appreciable risk. He was informed concerning the innumerable persons who had successfully led a normal life with an abdominal colostomy. Still, he insisted on operation.

The fourth patient, being 63 years old, would ordinarily have been left with a permanent colostomy. He was, however, unable to pursue his occupation because of his colostomy. He was given a conception of the risk involved, and an effort was made to have him change his vocation. He insisted on operation, possibly because he was a successful glass blower, and it was rather late in life for him to learn a new business.

TABLE 3

	Date Out of Bed	Discharged from Hospital	Return to Work
C. B.	6	14	2 months
G. R.	6	14	2 months
S. M.	5	11	2 months
E. A.	6	13	2 months
M. L.	6	11	7 weeks
W. J.	5	18	3 months
B. S.	6	23	?
C. B.	6	14	10 weeks

It may reasonably be asked why intestinal continuity was not reestablished by end-to-end anastomosis in the last two cases. In answer we must point out, that we have, under almost comparable circumstances, performed end-to-end anastomosis in 28 cases. In the third case the first operation was terminated as a Hartmann resection because of soiling incident to a large sigmoidotomy. At the second operation dense adhesions about the rectal stump so increased the technical difficulties that, in our judgment, a trustworthy anastomosis was precluded. In the fourth patient, the rectum was mobilized to the sacrococcygeal articulation during the first operation in an effort to do an end-to-end anastomosis. The inflammatory reaction resulting from the diverticulitis rendered the viability of the rectal stump uncertain. At the time of the second operation, an end-to-end anastomosis did not seem technically feasible. An unsuccessful anastomosis beneath the peritoneum of the pelvic floor subjects the pararectal fat to a bacterial contamination which can readily result in serious retroperitoneal infection. Should the patient survive this infection, he is often subjected to recurring rectal fistulas. In short, we have felt that in the cases cited we have been guided by the principle that

the operation must be adapted to the patient and not the patient to the operation.

The technic of this operation is essentially that of left hemicolectomy and abdominoperineal proctosigmoidectomy without colostomy and with preservation of the sphincter mechanism, adequately described elsewhere. The excision of the descending colon, splenic flexure and transplantation of the transverse colon require surgical mobilization of these parts, which is familiar to all colon surgeons.

Although there has been no mortality in eight cases, the operation is a formidable one, and doubtlessly there will be mortality when a significant number of cases have been done.

SUMMARY

An operation, hemicolectomy and proctosigmoidectomy with transplantation of the transverse colon to the anus, has been described. To our knowledge this procedure has not been previously reported. Four illustrative cases are cited, in which the operation served to avoid a colostomy or to eliminate one.

RÉSUMÉ

L'opération d'hemicolectomié et de proctosigmoiidectomié et de transplantation du côlon transverse à l'anus est decrites. Nous sommes d'avis que ce procédé n'a pas été repporté jusque'aprésent. Les auteurs rapportent quatre cas dans lesquels cette opération permit d'éviter une colostomie ou d'en eliminer une.

SUMARIO

Los autores de este articulo describen una técnica operatoria que consiste en la hemicolectomia y la proctosigmoidectomia con transplantación del colon transverso en el ano. Se citan cuatro casos ilustrativos en los cuales esta operación sirvio para evitar o eliminar la colostomia.

RIASSUNTO

Descrizione di una nuova operazione con l'illustrazione di quattro casi nei quali questa procedura finora mai pubblicata ha evitato o ha eliminato una colostomia.

SURGICAL TREATMENT OF EXTRADURAL HEMATOMA

(Continued from page 660)

importancia en dicho diagnostico la rapidez de la hemorragia.

El tratamiento de las hemorragias extradurales es siempre quirúrgico y este se debe de llever a cabo lo antes posible y aun asi la mortalidad es muy alta. Los factores que contribuyen a la mortalidad son en orden de importancia la perdida de tiempo en el reconocimiento de la hemorragia y el tratamiento quirúrgico, la edad del paciente, y la seriedad del traumatismo cerebral.

En todos los casos en que se sospeche la existencia de la hemorragia extradural se debe de practicar la trepanación exploradora sin perdida de tiempo.

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Lumbosacro-Iliac Arthrodesis

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HAVING to perform a lumbosacro-iliac arthrodesis for partial sacralization of the fifth lumbar vertebra, it was discovered at the last moment that an essential part of Albee's saw equipment was missing. The impromptu method found on the spur of the moment seems to have so many advantages over those generally in use, that it was thought worth while to publish it, so that others may also try it out in practice.

The idea is really an extension of Campbell's method and that used by Ghormley. In this method, however, the graft of the crest of the ilium is left in one piece and retains attachment to a stalk of connective tissue, through which part of its blood supply remains intact.

TECHNIC

Incision.—After the posterior superior iliac spine has been defined, an incision is made to pass parallel to the lower four lumbar spines and one inch lateral to them. As it passes the posterior superior spine, it swings out laterally to end well out over the gluteus muscles. (Fig. 1.)

Dissection.—When the deep fascia is reached by the dissection, the medial side of the wound is undermined until the lumbar spines are well exposed. Lower down, the skin is retracted as far as possible caudally and medially, until as much as possible of the insertion of the sacrospinalis mass in the trough between the posterior part of the iliac crest, the posterior superior iliac spine and the long sacro-iliac ligament on the one side and the crista sacralis is exposed. The posterior superior iliac spine and the upper part of the insertions of the gluteus maximus and the long sacro-iliac ligament are also cleared. An incision into the lumbodorsal fascia just lateral to the lumbar spines and the crista sacralis as far down as possible—thence across the lower fibers of the sacrospinalis and up along the sacro-iliac ligament and the posterior superior spine and from there out along the crest of the ilium—is followed by dissection of the sacrospinal muscles from the posterior surface of the vertebral column and the sacrum in the usual way.

As the muscle mass is lifted, the wound is widened laterally until 5–6 in. of the crest of the ilium are also laid bare (Fig. 1).

With the raspatory, the upper inch of the iliac bone is cleared of the soft tissue: the deeper layer of the lumbodorsal fascia in front and the upper part of the insertion of the gluteus medius behind. The insertion of the gluteus maximus and the long sacro-iliac ligament are left intact.

Shaping the Graft.—When the crest of the ileum is clear, a wide, thin osteotome is inserted medially

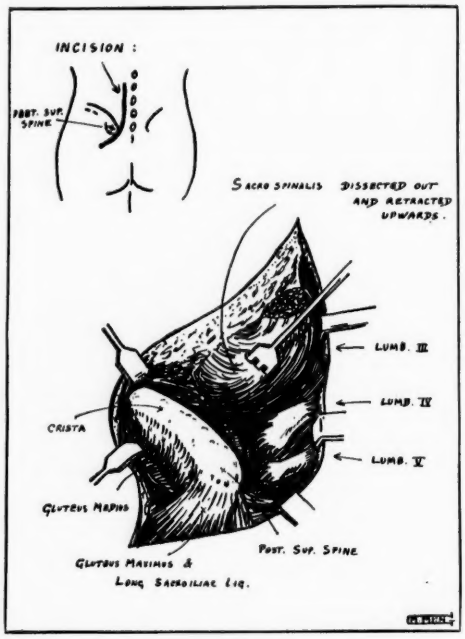

Fig. 1.

into the posterior superior spine in the sacral trough, pointing laterally and ventrally at an angle of about 30 degrees (Fig. 2, *1*). With careful tapping it will be found to enter easily into the soft cancellous bone emerging on the outer surface of the ilium, lateral to the posterior superior spinal mass. It is then carefully and slowly withdrawn with side-to-side movements, to prevent breaking its continuity with the iliac crest. The osteotome is next inserted again, further along the crest, and tapped in such a way that about 1 in. of crest is freed from the iliac bone (Fig. 2, *2*). Now a smaller osteotome is driven at right angles into the upper surface of the crest, as far out in the

lateral end of the wound as is possible (Fig. 2, *3*). Next, with two or three applications of the osteotome, the rest of the crest is detached from the ilium (Fig. 2, *4 and 5*). When done in this way, it is practically impossible to break the continuity of the graft.

This graft now swings loose, solely attached to the body by the insertions of the gluteus maximus and the long sacro-iliac ligament. These latter two are dissected back a bit to provide adequate mobility. The graft is surrounded by warm saline gauze, and the preparation of the bed for the graft is begun.

Fig. 2.

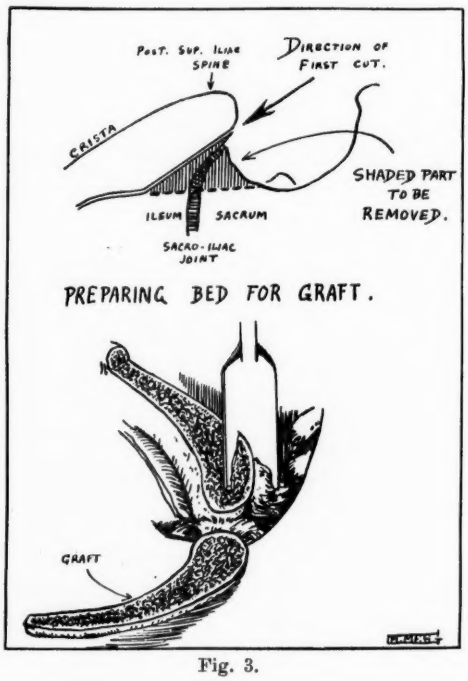

Fig. 3.

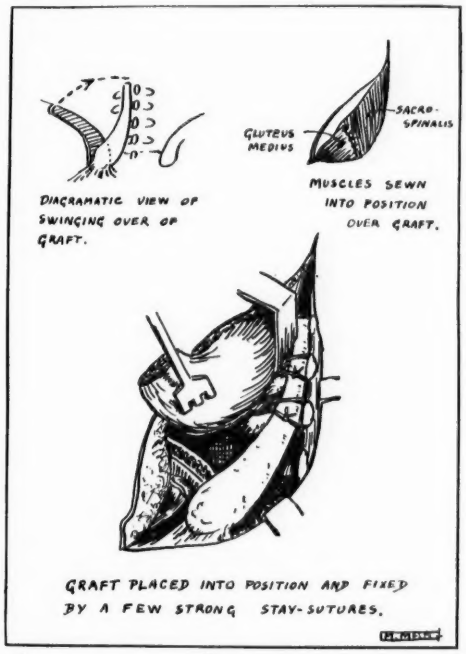
DIAGRAMATIC VIEW OF SWINGING OVER OF GRAFT.
GLUTEUS MEDIUS
SACRO-SPINALIS
MUSCLES SEWN INTO POSITION OVER GRAFT.
GRAFT PLACED INTO POSITION AND FIXED BY A FEW STRONG STAY-SUTURES.

Fig. 4.

Preparation of Bed for Graft.—The remains of the posterior superior iliac spinal mass and the lateral process of the sacrum still form a pyramid in the floor of the wound, which contains the posterior part of the sacro-iliac joint. This mass is chiselled off with the wide osteotome, as shown in Figure 3, thus forming a raw surface on both ilium and sacrum which will be bridged by the graft.

In this operation, I contented myself by freshening the posterior surfaces of the laminae, but any of the recognized methods may, or rather should, be employed at this point to achieve complete bony union in this region (Hibb's technic for the spine and Smith-Peterson's or Gaenslen's technic for fusion of the sacro-iliac joint, possibly also facetectomy). When this has been done, the graft is swung inwards and will be found to seem surprisingly preformed for its purpose, the crest fitting snugly up against the spine, the sacro-iliac mass occupying its old position, but now bridging the sacro-iliac joint.

Threaded on three fifths, round-bodied needles, thick chromic catgut or kangaroo tendon stay

sutures are placed round the spinal processes over the graft and through the corresponding ligamenta flava (Fig. 4). They will hold the graft firmly in position, as its other end is tied down by its attachment to the gluteus maximus and the long sacro-iliac ligament.

The sacrospinalis muscles are now sutured back into place by means of the covering fascia. This provides another fairly firm pressure-pad upon the graft. The gluteus medius is sutured to the lateral edge of the lumbodorsal fascia, thus covering the raw upper edge of the ilium.

Careful suture of the skin ends the operation. After-treatment is the same as for any of the standard methods.

The result in this one case was extremely satisfactory, and the patient has had no more complaints of her low-back pain up to now, two years after the operation.

DISCUSSION

This operation seems to have the following advantages:

1. It needs no special equipment, which is not always found in small hospitals and nursing homes.

2. It is technically much easier than the Albee method, for which not only special equipment but special skill in cutting and fitting the tenon is necessary.

3. It is a much less severe and shocking operation.

4. It does not leave the patient with the unpleasant after-effects which I, despite the lack of mention in the literature, have always found; thus patients suffer from the donor site, i.e., the tibias and have pains, tendency to edema, etc.

5. The graft is of cancellous bone which, according to reports, seems to be the best for transplants.

6. The graft remains attached to at least part of its blood supply and will therefore, certainly in part, be more viable and not subject to temporary resorption and rebuilding.

7. The graft, being more viable, is therefore more likely to resist infection which, in this oozing type of wound, is not a negligible danger.

SUMMARY

A new method of lumbosacro-iliac arthrodesis has been described. A case has been presented, and the advantages of the method have been enumerated.

* * * * *

(Since preparing the article, I have performed the following operation:

P. H., woman, 20, had a marked constriction in the middle of the esophagus and was feeding herself through a tube in a gastrostomy opening. The first stage of the operation consisted of making a long tube of the stomach by excising the lesser curvature, as described in the article. Following this she developed a left-sided pleurisy, which cleared up with one aspiration. Six weeks later the second stage was done as described, using blind dissection from the neck down and through the hiatus upwards. As had been suspected, the esophagus had grown solidly to the surrounding structure in the region of the aortic arch. More than ordinary force had to be used to tear these adhesions down and, during this stage, a tear was caused in the right pleura. The esophagus, however, was pulled free and into the wound of the neck, where the upper end of the stomach tube was gun-barrelled with the lower end of the esophagus. A jejunostomy finished the operation. A hemothorax developed, but was brought under control. The patient is now in excellent condition and has no difficulty in swallowing anything.

In evaluating the results of this attempt, it becomes obvious that the transthoracic method of approach of liberating the mediastinal esophagus is preferable. This case showed that the esophagus does scar to and into the surrounding tissues and organs. From my experience, it is definitely inadvisable to attempt liberation blindly, even though in this case no major catastrophe occurred. Subsequent experience has shown that the transthoracic approach is not as difficult or dangerous as has been believed.)

SUMARIO

El autor describe un nuevo metodo de artrodesia de la articulación lumbo-sacro-iliaca y discute sus ventajas.

SOMMARIO

Un novo metodo di lumbosacro-iliaco arthrodesise e stato descritto. Un caso e stato presentato, e l' avantagio del metodo e stato enumerato.

SOMMAIRE

Une nouvelle méthode d'arthrodèse lumbo-sacro-iliaque est décrite. Un cas est présenté et les avantages de la méthode sont énumérés.

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The Double Forceps Technic for Delivery of a Posterior Head

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TO those who practice gynecology and obstetrics, the purpose of this report is to describe an easy technic for delivering a posterior head. The technic is apparently not new, as a similar method was described by Seides in 1923. The technic, not found in most textbooks, is a valuable adjunct to the armamentarium of the obstetrician or general practitioner with an obstetrical practice. No special skill is required, and the maneuver could readily be used by the average obstetrician. The possibility of the rerotation of the head, either wholly or partially, to its original position is completely eliminated, and the operator has complete control of the baby's head at all times.

The principle is based on the application of two sets of forceps instead of the usual one set. The blades used are those with which the operator is most familiar.

Assuming that a posterior head has been diagnosed correctly, the blades are applied in the usual manner and the operator slowly rotates the head to a normal anterior position. At this point, the right blade, which is now inverted and on the left side of the pelvis, is removed. The left blade, now on the right side of the pelvis holds the head anteriorly. The left blade of a second set of forceps is applied in the usual manner, and the remaining blade of the first set is removed. The next step is to apply the right blade of the second set in the usual manner and deliver the baby.

The advantages of this method may be summed up as follows:

1. It eliminates the difficult and sometimes impossible manual rotation of the head before applying forceps.
2. A mid or low posterior head is not pushed back to a high or even floating head as often happens in manual rotation.
3. Once the first set of blades is properly applied, the second set will fall into a correct application.
4. The blades will not be applied to a possible floating head, or a head that has started to return to its original position, as often happens in the Scanzoni maneuver and other practised procedures.
5. There will be no trauma to the baby's head from the application of a clamp to the scalp to prevent rotation.
6. If axis traction is anticipated after rotation with the first set, the operator may feel secure that his locked blades are on properly and not over the eye or face.

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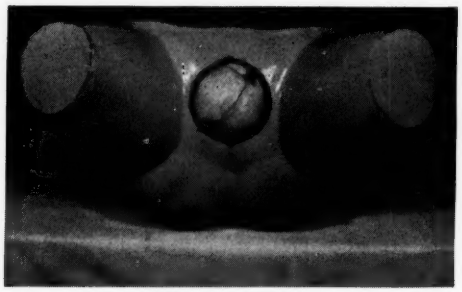

Fig. 1. R.O.P.

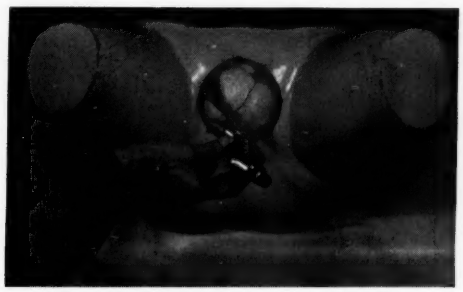

Fig. 2. First set in pelvic application.

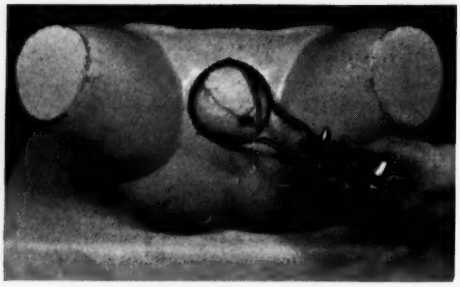

Fig. 3. Rotation to R.O.A.

Fig. 4. Rotation to R.O.A. completed.

Fig. 5. Removal of inverted right blade.

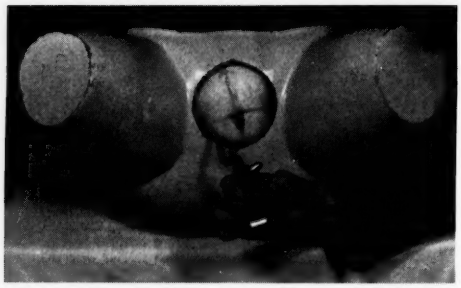

Fig. 6. Inverted left blade acting as stabilizer.

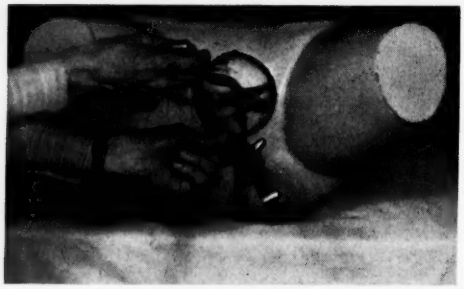

Fig. 7. Left blade of second set in cephalic application.

Fig. 8. Inverted left blade being removed.

Fig. 9. Right blade of second set applied.

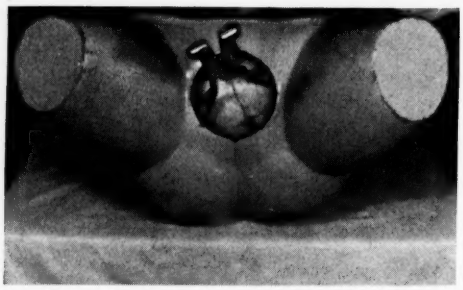

Fig. 10. Second application completed.

The Treatment of Chronic Deep Thrombophlebitis

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EDEMA

WHILE much progress has been made recently in the treatment of acute thrombosis and thrombo-embolism, relatively little has been offered in the treatment of the late results of this condition. The so-called postphlebitic sequelae include chronic venous insufficiency, edema, eczema, ulcers, secondary varicose veins, repeated attacks of acute thrombophlebitis, recurrent erysipelas and recurrent lymphangitis. Adequate treatment of thrombophlebitis during the acute stages and immediately following would probably prevent many of these postphlebitic conditions. However, a large number of patients first present themselves for treatment only after such changes have already taken place.

The destruction of the valves in the deep vein during the acute phases of thrombophlebitis leads to chronic venostasis. In the more severe cases damage may be done not only to the large deep veins, but also to small venules and capillaries. Permanent venous obstruction in varying degrees may result and, in nearly all cases, there is permanent destruction of the valves. In such case, when the patient is in the erect position, there is marked stagnation and sluggishness of the venous blood flow.

The first sign of this chronic venostasis is edema. At first this may be slight and disappear on bed rest. Sooner or later, the nutrition of the skin itself will suffer from this venous congestion. Irregular areas of brown pigmentation often appear after the edema has been present for some time. Of more importance is the development of marked fibrous tissue proliferation, as a result of increased protein content of the interstitial fluid. This, in turn, interferes with the normal flow of lymph, thus predisposing to still more protein accumulation and fibrosis. In most cases there is a superimposed inflammatory reaction as the result of bacterial invasion either through ulceration or acute eczema. The normal subcutaneous layer is replaced by edematous scar tissue. The superficial veins completely lose their normal structure and develop thick, inelastic, fibrous beds. Chronic lymphedema and chronic venostasis predispose to attacks of acute lymphangitis, which produce fever and chills. Hemolytic streptococci have been recovered from the edematous tissue at the beginning of such attacks. So-called inflammatory lymphedema is characterized by such attacks of chills and fever. There is increased swelling in the leg with clinical signs of lymphangitis and cellulitis.

The organism chiefly responsible for such attacks is the streptococcus. Each successive attack leaves the leg more edematous and more fibrotic. In addition to the venostasis, there is occlusion of the lymph vessels. Acute attacks may be induced by fungus infection of the feet. We have seen an initial attack of deep thrombophlebitis develop during the acute phase of trichophytosis. By far the majority of our patients, however, give a definite history of deep thrombophlebitis following operation or pregnancy. Some cases go many years without recurring attacks. During this interval the leg is persistently edematous. Such patients go for months with unhealed ulcers. Occasionally one sees a patient with a typical postphlebitic leg, but no definite history of an acute attack. The etiology is obscure. Postphlebitic edema is not difficult to distinguish from other types. The hard, brawny, indurated skin, more or less pigmented, is characteristic. Uncomplicated varicose veins do not, as a rule, cause edema. However, if varicose ulcers are present, a certain amount of swelling and fibrosis will occur about the ulcer. It is well to remember that secondary varicose veins are common in patients with chronic, deep thrombophlebitis. Incompetent valves in such vari-

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cosities only add to the chronic venostasis in such cases. The recognition of such secondary varicose veins is extremely important. In treating thrombophlebitis, whether acute or chronic, the prevention and control of edema cannot be too strongly stressed. As stated, above, lymph stasis predisposes to secondary infection and, once this vicious cycle of infection and lymph stasis has occurred, a condition of elephantiasis results. Regardless of etiology, uncontrolled edema leads to recurring infections and the production of abnormal fibrous tissue.

TREATMENT OF LYMPHEDEMA

The length of time a patient should wear bandages is not definite. It must be worn as long as there is any tendency for the leg to swell. The early cases are easily controlled in this manner. They do not develop ulcers nor do they develop subcutaneous fibrosis. The long standing untreated cases are much more difficult.

Following acute deep thrombophlebitis, the management of the patient, when first allowed out of bed, is most important. While the patient is still confined to bed and the leg elevated, the return circulation is adequate, but when the patient stands, gravity increases the hydrostatic venous pressure. Since secondary changes of chronic venous insufficiency do not occur in the thigh, it is only necessary that the leg be supported from the ankle to the knee. The necessity of support immediately after the patient becomes ambulatory cannot be too strongly emphasized. In long standing cases, where there is a great deal of swelling of the leg after the edema has been reduced, it is not infrequently discovered that the patient, in addition to chronic thrombophlebitis, has developed very large superficial varicosities. These large veins only add to the chronic venous insufficiency, causing still more venostasis. We have found that the excision or ligation of such varicosities is beneficial. Such veins, however, should not be ligated or excised unless the deep veins are patent. In our experience these deep veins practically always are recanalized, even though the valves may be incompetent. It is our belief that the resection of such varicose veins and the elimination of these large venous pools will prevent the recurring attacks of acute thrombophlebitis to which many of such patients are subject. I should like to repeat that, as long as the leg is edematous, the varicose veins are frequently not visible. In the long standing cases with extensive elephantiasis, surgical treatment is indicated. If an ulcer is present, it should heal before operation is performed. For patients who cannot remain in bed, we have found the Unna boot to be most satisfactory to promote healing of such ulcers. The ulcer begins to heal just as soon as the lymphedema is controlled. In addition to resection of superficial varicosities, the superficial femoral vein should be ligated in these cases with incompetent valves in that vein and resulting venous stasis. In long standing cases the ulceration may be quite extensive, sometimes completely encircling the leg. Distal to the ulcer the foot will be edematous and the skin will be greatly hypertrophied. Above the area of ulceration varicose veins may be buried in edema and fibrosis. The subcutaneous fibrosis and large amount of scar tissue is certainly a factor which prevents these chronic ulcers from healing. Since normal skin will not regenerate over such ulcerated areas, it is necessary to cover them with a graft.

SURGICAL TREATMENT

In the modified Kondoleon operation, incisions are made longitudinally down the side of the leg. This is usually on the medial aspect. However, extensive fibrosis may necessitate additional incisions. One must go down through the thickened scar tissue, allowing the wound to gape wide open. The constricting action of subcutaneous fibrosis is quite evident when an incision is made in the leg. The superficial varicosities are found buried in scar tissue, making dissection somewhat difficult. Although this fibrous tissue is removed with the vein, no effort is made to undermine the skin, since it has been found that such undermining frequently will result in sloughing of the skin margin. The incision which extends from knee to ankle is sutured only in that portion which is loose and pliable. The scar tissue is allowed to retract, and this

defect is covered later with a graft. The scar tissue marking the site of the healed ulcer is usually completely excised. This defect is then covered with a split graft. In our experience ulcers which have been allowed to heal by granulation almost invariably recur. Elastic support must be continued after the operation. A period of bed rest with elevation of the legs and wet antiseptic dressings is desirable before operation. Except in those cases where grafting is done, we have found wet dressings postoperatively superior to grease dressings. Some cases of perforating veins are ligated as described by Linton. The old ulcer bed may be completely excised, together with surrounding scar tissue. The incision is not sutured but allowed to remain open, thus increasing the circumference of the leg and relieving tension. Grafting is not done immediately but delayed until a healthy granulating base is obtained, at which time thin split grafts are placed over the remaining unhealed areas. This must be done before scarring and fibrosis recurs. Patients frequently remark about the relief of tension and the freedom of movement about the ankle as soon as this scarred area is excised. A high ligation of the long saphenous vein is usually indicated. This will relieve some of the chronic venostasis and prevent recurrences. Preoperative preparation with bed rest and wet dressings is most important, since there is practically always a low grade infection present in such legs.

ULCERS

Many ulcers will heal fairly rapidly with the patient at rest in bed and the leg elevated. The more chronic ulcers, with considerable scar tissue in the margin as well as in the base, will usually require grafting to obtain permanent healing. Clean healthy granulation tissue should cover the base before the graft is applied. The ulcer will recur even after grafting unless edema is controlled and incompetent varicose veins in the neighborhood of the ulcer corrected. In some cases it will be necessary for such patients to wear support permanently. To prevent the accumulation of fluid in the tissues, we have found the elastic bandage superior to elastic stockings. The latter frequently allows edema to collect about the ankles. The bandage should be at least 4 in. wide and must be strong enough to exert sufficient pressure on the skin, so that the tissue pressure is equal to intravenous pressure. The best support is given by a pure rubber bandage usually applied over a stocking. The type of case under discussion may be subject to recurrent acute thrombophlebitis, such attacks being ushered in by chills and fever with increased swelling of the leg and pain. The focus of such infection may or may not be evident. If ulceration is present, it may be the portal of entry. Recurrent attacks may appear during the acute phase of fungus infection of the feet. It is advisable to search carefully for such foci and treat all that may be found. A similar clinical picture is produced by chronic progressive lymphedema, which is the result of a recurring attack of lymphangitis due to hemolytic streptococcus infection. With each acute attack an area of fibrosis is developed and extends up the leg. We have also found that venostasis in large varicose veins apparently encourages these recurring acute attacks, since they tend to disappear when the varicosities and venostasis have been relieved. The frequent association of secondary varices in the postphlebitic leg is not generally recognized. Such varicose veins frequently are hidden by the swollen leg and buried in dense fibrous tissue. They are not prominent, as are primary varicose veins in the unswollen leg. We have often seen patients with marked swelling of the legs resulting from a previous attack of deep thrombophlebitis. After the edema had been controlled and the swelling had subsided, one could see and feel large superficial varicosities with incompetent valves, which added to the venostasis and insufficiency together with the incompetent valves in the deep vein. We feel that such veins should be treated surgically by high ligation and segmental resection usually below the knee. Injection therapy has not been satisfactory in these cases. Before treating varicose veins in the postphlebitic leg, it is necessary to demonstrate that the deep veins are patent. This can be done by venogram or much more simply

by the application of a well wrapped elastic bandage. We believe that only rarely is the deep venous system permanently obstructed. If such is the case, however, ligation of the long saphenous vein will only add to the venous obstruction. Most of our cases show signs and symptoms of venostasis not only from secondary varicose veins but also from incompetent valves in the deep venous circulation. It is in such cases that we feel permanent support will be necessary, if edema is to be controlled and ulcers are to be kept healed. It should be emphasized that before ligating secondary varicosities, the deep venous return must be demonstrated.

Ulcers develop at the site of chronic indurated cellulitis and at any point where there is considerable eczematoid dermatitis. The ulcer will fail to heal as long as there is any swelling of the leg. While varicose ulcers and postphlebitic ulcers are probably the result of chronic venostasis in both instances, in our experience the postphlebitic ulcer is more difficult to heal and keep healed. This is, no doubt, due to the increased amount of subcutaneous fibrosis in cases of chronic thrombophlebitis. If it is impossible to confine such patients to bed, we have found the Unna paste boot the most satisfactory type of dressing and have seen ulcers frequently healed in ambulatory patients with this type of dressing. Healing of the ulcer is simultaneous with disappearance of edema. It should be emphasized that such pressure dressings must extend from the toes to the knee.

ECZEMA

Eczematoid dermatitis associated with chronic thrombophlebitis and chronic lymphedema is troublesome. This complication is frequently the result of self-medication or sensitization to some drug. We have seen a number of severe reactions following the use of mercurial antiseptics and sulfa drugs. In cases of chronic venostasis the skin on the legs may develop a local sensitization which is not present in other parts of the patient's body. In cases of eczema only nonirritating applications should be used. If there is swelling of the leg, the skin condition will clear up much more rapidly if the leg is kept elevated. In such cases ulceration at some stage of the disease usually occurs.

If a dermatitis is severe enough, it usually becomes moist, erythematous and edematous. It is difficult when first seeing a dermatitis to tell whether it is caused by varicose veins or other circulatory disturbance or by a contact allergy. The history is important in determining the principal causes. Some varicose dermatitis is overtreated and develops a secondary allergic dermatitis, while some allergic dermatitis causes swelling and indirectly affects the circulation which, in turn, makes the dermatitis worse. If the patient gives a history of swelling of the legs at the end of day preceding the dermatitis, it is very likely circulatory in origin. If the dermatitis precedes all edema of the legs, it is likely to be of contact allergic origin which, in turn, may become irritated, infected and edematous and affect the veins and lymphatics which may slowly or never return to normal.

Many cases of varicose dermatitis are mild in the beginning, but, due to the drug store over-the-counter therapy, many patients develop a contact dermatitis superimposed on the varicose dermatitis. The most frequent chemicals that cause trouble are sulfathiazole, penicillin ointment, ammoniated mercury ointment 5 per cent, sulfur, Whitfield ointment and drug store proprietary fungicides. Since there is a varicose dermatitis present, the skin is broken and is more sensitive than the skin that is dry and unbroken on other parts of the body.

Many patients give a history of swelling of the ankles or legs with itching which they scratched, producing a sore spot. Due to the itching or apparent infection, sulfathiazole or penicillin ointment is applied and at first appears to help, but then the dermatitis spreads over the legs or even over the entire body. Many cases may start from other contact causes such as dyes, leather, glue, rayon and plastic materials in the shoes, producing a dermatitis extending up on the legs. Wool, silk, rayon and nylon hose may start the dermatitis.

Farmers frequently develop a contact dermatitis on the legs from vegetation such as

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Presacral Neurectomy for Relief of Uterine Dysmenorrhea*

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A RETROSPECTIVE view of years of experience in treatment of the common symptom or syndrome of functional uterine dysmenorrhea reveals many changes in the concept of its cause and disappointments in its treatment. Corrective measures for malformations, displacements, flexions and partial stenosis have been disappointing in too many instances. I am not including in this statement those cases of true cervical obstruction due to cicatricial tissue following operations and cauterizations of the cervix, obstructing myomas and carcinoma.

Relief of pain by administration of estrogens has not lived up to its early promise, and ovarian irradiation has the serious drawback of interfering with proper function by producing temporary or premature menopause. The ideal method sought for in this painful disease is one which will relieve pain without disturbing uterine or ovarian function. The studies published in 1913 by Latarjet and Bonnett on the sympathetic nervous system, especially the hypogastric plexus, disclosed, if not a causal factor, at least a means of relieving the pain symptom. The studies show that innervation of the uterus is both by the sympathetic and parasympathetic systems. The sympathetic has its origin in the aortic plexus situated on the aorta between the superior and inferior mesenteric arteries. From these plexuses, filaments pass downward forming the superior hypogastric plexus and pass over the bifurcation of the abdominal aorta to the presacral space, from which it obtains its name of presacral sympathetic nerve. In this space it is joined by branches from the fourth lumbar ganglion, which emerge from beneath the common iliac arteries. As these nerves pass downward over the promontory of the sacrum, they form two small trunks, the inferior hypogastric nerves distributed to uterus, bladder and rectum.

The observation of Learmouth on the effect of stimulating the presacral nerve during operation on human beings definitely proves that the fibers carry motor impulses. However, the control of the motility of the uterus is still unknown (Adson and Masson).

Fountain and Herrman state that the presacral nerve exerts a vasoconstrictor action on the vessels of the internal genital organs; whereas, the parasympathetic nerves derived from the visceral branches of the second, third and fourth sacral nerves exert a vasodilatory effect. This seems to be substantiated by the frequency with which uterine bleeding occurs on about the second postoperative day. Section of the presacral nerves prevents their vasoconstrictor action to oppose the vasodilator action of the unsevered parasympathetic nerves. Fountain and Herrman observe that this bleeding is most apt to occur when the resection has been performed four to five days following a regular menstruation, that it is due to an intense uterine congestion and that regular menstruation will occur 28 days following the last preoperative menses.

Though it had long been known that the presacral nerves were motor, it was not accepted that they carried sensory fibers, until presacral nerve resection demonstrated its great success in relieving pain. Adson and Masson agree that presacral fibers carry afferent sensation of pain, but it is their opinion that the relief of pain in functional dysmenorrhea is obtained not only by cutting sensory nerve fibers, but from interruption of efferent fibers in the presacral group which supply the blood vessels in the genitalia and musculature of the uterus. Irrespective of the cause of uterine functional dysmenorrhea, it is apparent that severing the presacral

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nerves will meet the requisite of giving relief from pain without the sacrifice of important pelvic functions. Surgical experience has demonstrated that it does not interfere with conception, parturition, libido, coitus or the marital relationship. Also there is no alteration of function of the urinary bladder or rectum.

The ovarian plexus is derived from (Hovelacque) the middle of the renal plexus and also the aortic intermesenteric sympathetic, but it is important to note that its filaments do not accompany the presacral, but follow the ovarian artery throughout its entire course and enter the suspensory ligament of the ovary supplying the ovary, fallopian tube, broad ligament and lateral border of the uterus. It carries sensory fibers, but their course from origin to destination being widely separated from the presacral group, is not interrupted by presacral resection; therefore ovarian pain or intermenstrual pain of ovarian origin is not relieved by presacral nerve resection. Adson and Masson are of the opinion that it is necessary to perform sympathectomy or division of the ovarian artery to secure this relief.

Presacral neurectomy should be done only for relief of uterine, and not ovarian, pain. Occasionally a patient will be unable to locate the pain, whether suprapubic or in the region of the ovary. In such cases a bimanual examination with the uterus between the palpating fingers will enable the patient to make a positive differentiation.

It is generally conceded by writers from Cotti to the present that the operation should be reserved for those severe, refractory cases of functional dysmenorrhea requiring rest in bed and resistant to hygiene, the administration of sex hormones, mild analgesic agents and minor surgical procedures. It is also advisable to use it in secondary dysmenorrhea combined with the corrective operations and excisions of diseased tissue. Counsellor (Journal-Lancet, Sept. 1938) states "it has been my experience that the relief of dysmenorrhea is not complete in endometriosis if in addition to local excision, resection of the presacral nerves is not performed, because pain is evidence of recurrence and patients can be kept more comfortable until later years when they can be relieved by a castration dose of Roentgen rays or radical surgical procedures."

Cotti of Lyons, France, who has reported the largest series of cases, performed his first presacral neurectomy December, 1924, and reported his first series of cases in 1925. Later he reported on his 12 year experience with 300 cases, in which there was only a 1 per cent mortality and only two cases which were not relieved; in three or four others there remained some pain, but only for 1–2 hours instead of the previous experience of 24–48 hours, and in no case was there enforced stay in bed. In addition, Cotti operated on four patients who were not relieved by operations performed elsewhere, and found that some of the filaments had not been divided and in two instances neuroma had formed; upon resection of these nerve filaments and the neuroma, the patients were relieved. He cites 50 patients who have had normal pregnancy and parturition following operation. Other authors also report pregnancies, and state that during parturition the patients have the same expulsive power, but little if any discomfort during the primary stage.

Subsequent authors have not attained such brilliant results, but they have reported satisfactory relief in 85–90 per cent. In our series of 96 cases operated since January, 1937, there have been no surgical deaths or complications. Eighty-four have had complete relief from pain, 10 have had sufficient relief to be satisfied with results and 2 have not been heard from. In none has there been a diminution of libido. Six were relieved of painful coitus, and 12 have undergone uncomplicated pregnancy and parturition at full term with the same expulsive power, but little pain during the first stage. As a matter of routine, we instruct our patients to anticipate a rapid and less painful delivery than usual.

Jaboulay in 1898 approached the presacral nerves for resection by a complicated retrorectal technic for the relief of pelvic pain. Ruggi in 1899 advocated a transperitoneal route and resected the utero-ovarian plexus. In 1921, Leriche urged periarterial sympathectomy of the internal iliac artery. Cotti

performed his first presacral nerve resection essentially as it is being done today. The startling beneficial results obtained by him led other European surgeons to adopt the method. However, the American profession was slow in accepting the procedure, but as their tentative trials obtained excellent results, the procedure has grown in favor as attested by the Amercian literature of the past few years.

The anatomy, with which the surgeon is concerned, is the interiliac space described by Elaut. This is a triangular space, the apex of which is formed by the bifurcation of the abdominal aorta, the right boundary formed by the common iliac artery, the left side by the left common iliac vein, the base by the lower edge of the promontory of the sacrum, the bed by the fifth lumbar vertebra and sacral promontory. It is covered by parietal peritoneum. The space is traversed by the ureters which lie just anterior to the common iliac vessels, and the superior hypogastric nerves varying in size and number as they descend over the bifurcation of the aorta and form a plexus with the fourth lumbar, which emerges into the space from under the common iliac arteries. This, the presacral plexus, is embedded in areolar and fat tissue. At the promontory or base of the triangle, the plexus gathers into two nerves—the inferior hypogastrics which enter the uterus, bladder and rectum. Elaut's study of the literature and his dissection of 50 presacral nerves make it plain that interrupting all the nerves and filaments in this space should prevent transmission of pain sensations.

TECHNIC

We follow essentially the technic as laid down by Cotti, with the patient in marked Trendelenburg position. The intestines are packed off and sigmoid and rectum drawn well to the left. We visualize the ureters, and explore for supernumerary ureters before we open the posterior parietal peritoneum. We lift it upward with Allis forceps and begin the incision at the lower border of the promontory rather than over the bifurcation of the aorta, to avoid injury to the bifurcation of the inferior vena cava, which we have found in some instances to be placed very

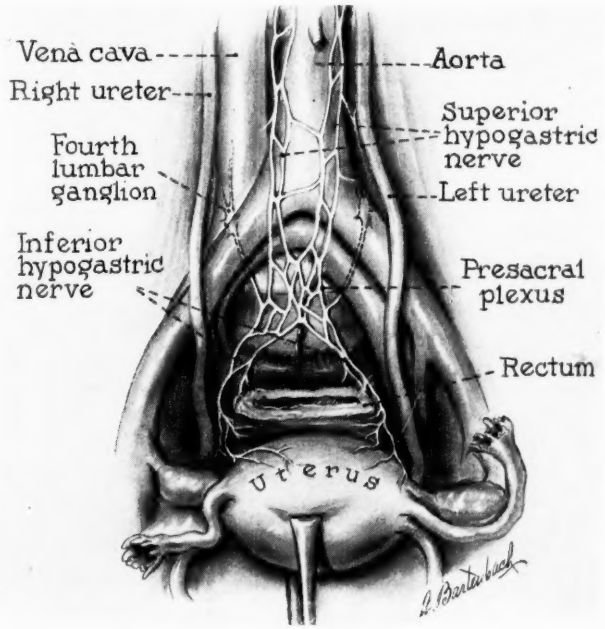

Fig. 1. Presacral nerves.

low and partially collapsed. The incision is then carried upward to the superior border of the aortic bifurcation. This method minimizes accidental injury to the vein and artery. A meticulous dissection is then begun, stripping all nerve and areolar tissue from the under surface of the right peritoneal flap toward the right common iliac and removing the mesial areolar tissue about the artery and vein down to the periosteum of the vertebra, using unusual care not to traumatize the vein with forceps. The right ureter is uncovered and identified by its accompanied network of vessels and rhythmic contractions. Dissection is carried upward to the bifurcation of the aorta. The same procedure is followed under the left flap of the peritoneum, taking great care to avoid injury to the prominently located left iliac vein which lies mesial to the artery. One case of injury to this vein has been reported, leading to serious complication in the left leg. The arteries, veins and ureters having been identified, the interiliac mass, which includes fascia, areola and fat tissue, and the presacral nerves passing over the superior surface as well as the fourth lumbar filaments which pass under the bifurcation of the aorta, is lifted forward by hook or Allis forceps and entirely freed from the vertebra throughout the distance from the promontory to the bifurcation, and severed between forceps at the bifurcation. The proximal end is ligated with no. 0 catgut to avoid bleeding from any small vessels that might have been included in the dissection. The distal portion is stripped downward with gauze dissection, the field being kept absolutely dry by gauze pressure. The mass is ligated and excised at the lower edge of the promontory of the sacrum. Great care should be taken to excise all filaments in the space. The peritoneum is then approximated with a running suture of plain no. 0 catgut.

In some instances, a misplaced ureter has passed diagonally across this space, and in two instances we have found the space decidedly encroached upon by a right implantation of the mesocolon, enclosing an unusually low inferior mesenteric artery. In these cases, we have gone through the anterior surface of the mesentery by blunt dissection, carefully identifying the inferior mesenteric vessels and drawing them aside to avoid traumatism.

This method, advocated only for uterine dysmenorrhea, is one which can be performed safely by the experienced general surgeon, does not interfere with function or require the sacrifice of important pelvic organs and gives complete or satisfactory relief from pain in 90–95 per cent of cases.

TREATMENT OF CHRONIC DEEP THROMBOPHLEBITIS

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grass, weeds and other plants. Dust and feed for animals may cause it. This dermatitis mostly affects hands, wrists, face, arms and neck, but is usually more intense around the ankles.

Regardless of whether the dermatitis starts from a circulatory disturbance or from some contact agent, the patient should keep the legs elevated until the acute stage is over, and mild applications should be used. Compresses of aluminum acetate solution, potassium permanganate, saline, magnesium sulfate or boric acid solution may be used in the acute stage. In the subacute stage a mild lotion such as a zinc oxide and corn starch lotion or a paste such as Lassar's paste may be used. In the subacute and chronic stage x-ray treatments in small doses, 50–75 r once a week on small areas for 4–6 treatments, may help. After the dermatitis subsides, the circulation can be corrected to prevent a recurrence. If the patient still has swelling of the ankles or legs after the dermatitis has disappeared, there will probably be another cycle of the recurring dermatitis, infection and irritation. The lower legs appear to be more sensitive to chemicals and infection after a varicose dermatitis develops than other areas of the body. An erysipelas or erysipeloid condition frequently develops.

Before any chemical such as sulfathiazole, penicillin or ammoniated mercury ointment is used on a varicose dermatitis, a patch test with it on the skin 24–48 hours should be made.

Spontaneous Perforation of the Gallbladder

Report of a Case Occurring 35 Years After Cholecystostomy

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IN the last few years, we have had three cases of spontaneous perforation of the gallbladder. So it was thought it might be of interest to report one of these cases and discuss the fact that, contrary to general opinion, perforation or rupture of the gallbladder occurs more frequently than recognized. The frequency with which the diagnosis is not made until after operation warrants careful consideration of its etiology, incidence, symptomatology, diagnosis and treatment.

Niemeier in 1912 suggested the following classification of the types of perforation or rupture of the gallbladder:

(1) Perforation or rupture with communication with another viscus, the most commonly involved organs being the duodenum, transverse colon and liver, in that order.

(2) Perforation with formation of pericholecystic abscess. This type is by far the most common and usually is the result of chronic infection with gradual perforation.

(3) Free perforations in which gallbladder contents are spilled into the peritoneal cavity.

(4) Rupture of gallbladder, associated with postoperative ventral herniation, as in the case reported here.

Doran adds another type of perforation based on a case he reported in 1922, namely, external rupture with formation of an external biliary fistula. This is borne out by Robertson's and Ferguson's investigations, which have shown that chronic gallbladder disease leads to invaginations of the gallbladder mucosa with the formation of Ashoff-Rokitansky sinuses. These structures, being the intramural inclusions of some mucosal glands, may lead to thinning of the wall with either a definite predisposition to or actual rupture of the gallbladder. The irreversible results of acute chronic cholesystitis such as ulceration, stone formation, kinking and adhesions about the gallbladder all inevitably cause certain degrees of obstruction. When this is sufficient to interfere with the ready drainage from the gallbladder, the inexorable train of events leading to perforation is established. Accumulation of mucus, bile, desquamated cells and other products of inflammation gives rise to a progressively increasing intravesicular pressure. When this pressure equals or is greater than the venous pressure, embarrassment, if not inhibition of circulation occurs, and this predisposes to gangrene and perforation. Partially or completely impacted gallstones can cause pressure necrosis with destruction of the gallbladder wall and extravasation of its contents.

Perforations in which the extravasated bile is presumably sterile may be tolerated remarkably well. However, in those cases in which the extravasated bile is infective, as it usually is in both acute and chronic cholecystitis, there is rapid formation of a particularly severe peritonitis, which greatly contributes to the high mortality and forbidding morbidity of this condition.

ETIOLOGY

Stout and Hibbard in 1944 discussed the etiology of perforations of the gallbladder under three separate considerations: trauma, chronic gallbladder disease with or without stone formation and ulceration of the gallbladder wall by a persistent stone.

Traumatic perforation of the gallbladder is usually directly associated with a specific act of violence. Cases are reported of perforations by ice pick wounds, knife slashes, pistol shots and violent blows to the abdomen. Blaustein suggests that aside from those trau-

matic perforations caused by penetrating wounds, the externally applied violence may well have been associated with a predisposition to rupture on the part of the wall of the gallbladder, due to thinning from chronic disease, erosion, etc.

Spontaneous rupture of the gallbladder, however, does not always give rise to acute upper abdominal symptoms. Some cases heal without incidence. Two cases were seen by the authors during the past year in which this was true. In one case, free gallstones were found within the peritoneal cavity at operation for dissociated cause. The other revealed three peasized stones completely free of the gallbladder and embedded in the wall of the stomach.

INCIDENCE

McWilliams in 1912 reported the results of 3,180 cases of gallbladder operations, with an incidence of 0.9 per cent of perforations. Karullon also reported the finding of 1.5 per cent incidence of perforation in 6,114 autopsies. Bennett in 1926, reporting on 3,064 cases in England, showed an incidence of 0.9 per cent. Mitchell in 1928, reporting on 1,270 cases of all types of gallbladder surgery, stated an incidence of 1.2 per cent perforations. Zinninger in 1932 and Bass and Bird in 1936, however, published reports in which they stated that results in their series showed 22–40 per cent, the higher percentages, of course, occurring in cases where surgical intervention had been delayed. Heuer in 1934 emphasized the increased frequency of this complication and quoted a percentage incidence of 22 per cent, to make his point clear. Ranking and Eger in 1943 in their review of the recent literature again stated an incidence of 1–3 per cent. The marked variation in these incidence percentages is due to two factors. First, the diagnosis of perforation or rupture of the gallbladder is now being more frequently made, and secondly, the reports with high percentages were in the main derived from larger clinics where the more complicated cases are seen.

Most perforations of gallbladder occur in people of the upper middle age group. The disease affects women more than men, due to the fact that gallbladder disease seems to be predominately a disease of women.

SIGNS AND SYMPTOMS

Symptoms depend upon the type of perforation present. As previously stated, acute spontaneous rupture with free extravasation of bile will, of course, set up a generalized peritonitis in those instances where infective bile is spilled. If perforation is induced by external violence and sterile bile is extravasated, it often appears that this circumstance passes unnoticed. Gradual erosion of the gallbladder wall with formation of a fistulous tract leading into the transverse colon or the duodenum can conceivably occur without any untoward manifestations.

Perforations occurring secondary to acute gallbladder disease have the premonitory signs of that disease and suggest the origin of the complications.

Pain is a constant finding. Usually there have been previous episodes of transient pain, which has been climaxed by sudden severe pain in the right upper quadrant extending to the flank and to the back. Vomiting, distention, muscle spasm and finally generalized rigidity follow in the wake of spreading generalized peritonitis. In the formation of a pericholecystic abscess, this episode of pain is followed by localizing signs, such as the presence of a fluctuating, tender mass in the region of the gallbladder. A rapid feeble pulse, fall in blood pressure, shallow quick thoracic breathing and intense pallor with an anxious countenance are usually present. Fever may be slight or quite marked, but does not serve as a constant diagnostic point. Jaundice very often is not present prior to acute onset. If it occurs following the inception of the above train of symptoms, its help as a diagnostic sign is apparent. Of great aid in diagnosis is the history of definite pre-rupture symptoms. Marked qualitative food dyscrasia is usually present. The patients complain of "dyspepsia and biliousness," particularly following meals of gas-forming and greasy foods. Less severe episodes of pain with prolonged periods of soreness are indicative of either a lack of stones

or that any stones present are too large to cause obstruction.

DIAGNOSIS

Preoperative diagnosis of perforation or rupture of the gallbladder is the exception rather than the rule. The condition with which it is most frequently confused is perforated duodenal ulcer. Alexander in 1927 showed that in his series this diagnosis had been suspected in only 12.5 per cent of cases. Diagnosis is usually made in cases with definite history of previously oft-repeated episodes of nausea and vomiting and definite food dyscrasias. The laboratory aids such as blood counts and liver function tests, x-ray and temperature charts are not consistently reliable in defining those cases of gallbladder disease which will clear up with conservative treatment and those which will progress to rupture. In the latter stages of the disease, when diffuse peritonitis has developed, these cases are always confused with peritonitis of appendiceal origin or bowel perforations. In the rare instances in which incomplete descent of the cecum may be present, any acute inflammatory affection of this region or of the appendix can readily give rise to a confusing picture. Pericholecystic abscess may produce a palpable tumor mass in the upper abdomen and is generally distinguished by being exquisitely tender and located nearer the midline.

TREATMENT

Of late years the trend has been to earlier surgical intervention in acute gallbladder disease. Whenever perforation of the gallbladder is suspected, surgery should be performed with the least possible delay. This does not mean, however, that several hours cannot be profitably spent in preparing the patient. In fact, such treatment is essential. Pain should be controlled with adequate sedation in order to relieve the patient of any added neurologic contributions to shock. Decompression of the stomach by the Levine tube and suction is extremely useful. This serves to relieve pain, empty the stomach and help prevent intestinal ileus. Sufficient quantities of isotonic fluids and blood plasma must be given to combat shock. Glucose solutions are doubly useful in that they replace circulating volume and aid in the support of liver and carbohydrate metabolism. Vitamin K, vitamin B and ascorbic acid have been used with gratifying results and serve to reduce the postoperative hemorrhagic complications. The rapid amelioration of the patient's condition, however, must not be construed to mean that the time for operation can be further delayed. The pathologic changes within the gallbladder are not so easily reversible, and surgery must still be instituted early.

The question as to whether cholecystostomy or cholecystectomy should be done still remains an individual problem. The operation must be fitted to the case at hand. By far the better procedure is the removal of the gallbladder, but this choice will be determined by many factors. Duration of symptoms, age, general physical status and such laboratory data as can be secured will all guide the surgeon in this respect. If incision is made into a large palpable mass, drainage is thought to be sufficient as a temporary expedient in patients who probably cannot stand further manipulations. However, improved clinical results will follow complete removal of the gallbladder and drainage of the common duct. Hisken and Coray suggest wider use of cholangiographic studies as means to more accurate appraisal of the functional status of the biliary tract. They also advocate the Thorek operation in those instances where the inflamed gallbladder is deeply embedded in the turgid liver. This procedure leaves behind that part of the gallbladder mucosa which is adherent to the under side of the liver. After adequate dessication is carried out, this is then covered with continuous sutures. Operative wounds should be closed with nonabsorbable sutures to minimize the possibility of postoperative herniation. Drainage is maintained until obstructive signs have disappeared, as shown by postoperative cholangiographic studies usually performed on the seventh to tenth day. Careful postoperative care is essential. This should include adequate oxygen therapy to minimize cardiac and pulmonary complications, decompression of the gastro-intestinal tract with suction and the

intravenous administration of fluids, blood and vitamin K, vitamin B and ascorbid acid.

CASE REPORT

M. B., white female, aged 75, was admitted to Mount Carmel Mercy Hospital on June 13, 1946, with the complaint of pain and a lump in the right upper abdomen. One month before admission, she had experienced a sudden severe pain in the right upper quadrant only for a few moments when she straightened up from garden work, but a few hours later she noticed a lump at the inferior angle of an old gallbladder incision, a little above and to the right of the umbilicus. This had remained until admission. Examination revealed this protrusion to be only moderately tender, nonreducible and very firm, measuring about 4.5 cm. in diameter.

Past history revealed that she had a gallbladder operation 35 years previously, but she did not know exactly what operative procedure had been carried out. Since then she had remained perfectly well and gave no complaints of dietary difficulties or other gastro-intestinal symptoms.

The remainder of the physical examination revealed an obese, well preserved, white female of about 75 years of age, not acutely ill. There was an upper right rectus gallbladder incision with the mentioned protrusion and a well healed nonherniated suprapubic scar on the abdomen. The abdomen was soft and nontender, and no other masses or organs were palpable. Blood pressure was 190/90. Laboratory findings revealed a red count of 4,260,000 with 83 per cent hemoglobin and white count of 7,300. Differential count was: eosinophils, 2 per cent; stab neutrophils, 12 per cent; segmented neutrophils, 76 per cent and lymphocytes, 10 per cent. Urinalysis was negative for albumin, sugar and acetone. Blood serology was negative.

Operation was done the following day. An incision into the supposedly postoperative hernia was productive of a large amount of thick, yellowish, cheesy, purulent material, found immediately beneath the skin. Further exploration revealed a connection between this subcutaneous abscess and an intraperitoneal mass containing stones. After marked difficulty, it was ascertained that this entire mass was a markedly necrotic gallbladder, which had apparently been sutured to the peritoneum at the previous operation and which had now ruptured through the abdominal musculature into the subcutaneous area. Complete excision of the entire mass was carried out. One Penrose drain was left in the gallbladder fossa, and the abdomen was closed in one layer with chromic catgut sutures. Three through-and-through steel wire retention sutures were placed.

Cultures of material taken from the necrotic mass were reported negative for bacterial growth after 48 hours of incubation.

The Penrose tube was removed in 48 hours, and the patient was allowed to sit up in bed after the first 24 hours, and permitted out of bed on the fourth day. Her postoperative course was uneventful, and she was permitted to leave on the twelfth postoperative day. She has remained well ever since; in March she flew to Florida and was the only passenger not airsick on the voyage.

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Late Gangrenous Hernia

Conservative Operative Treatment with Recovery in a Nonagenarian

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GATCH and Montgomery [1] in a recent report gave a résumé of the many methods used in treating strangulated, gangrenous hernias that come late to operation. They showed that the mortality rates today were no less than they were 20 years ago. They advocated a conservative type of treatment: first, incising and draining the gangrenous external mass, and then, after getting the patient in better shape by use of the Miller-Abbott tube, doing a resection intra-abdominally. Their results were good, and they gave three cases in detail showing methods of management.

I recently had under my care a patient where this conservative type of surgery was performed. The patient was a woman of 91, who had had a strangulated gangrenous hernia of eight days' duration. This case is reported because of a modification in management, which seems to be an improvement over the methods advocated by Gatch and Montgomery, and also because the patient recovered fully from what appeared to be an almost hopeless and moribund condition.

CASE REPORT

S. B., aged 91, was admitted on Sept. 17, 1946, because of persistent vomiting of eight days' duration. This was associated with abdominal cramps and pain. She had been in good health despite her advanced age and was suddenly seized with severe pain in her abdomen while raking leaves. She went to bed and began to vomit shortly thereafter. This vomiting continued at intervals, and she complained throughout the night of abdominal cramps. She was seen during the night by a physician who believed she had a gastro-intestinal upset, and who prescribed for her. She continued to vomit the following days; on the third day her daughter noticed a tender lump in the left groin. At this time she was vomiting everything, including sips of water. She had been given two purgatives and several enemas without result, and she had passed no flatus since onset of illness. Her condition appeared desperate; her vomiting was fecal in character, and the physician who saw her felt that her age ruled out any operation. Since death seemed imminent, all that could be done was to make the patient as comfortable as possible. On the eighth day of her illness I was called for a surgical opinion.

At examination the patient appeared desperately ill. Her tongue was dry and brown, and she was severely dehydrated. Her temperature was 100.6 by axilla, pulse 110, respiration 28, blood pressure 140/70. The lung fields were clear; there was a harsh, systolic blow over the apex. The abdomen was moderately distended, the obstruction apparently being high in the small bowel, and the patient had kept herself partially decompressed by her persistent vomiting. The abdomen was silent. There was a mass the size of an orange in her left groin. This mass was tense, tender and the skin overlying it somewhat reddened. Her leukocyte count was 8,800; red blood cell count 3,100,000; hemoglobin 8.5 Gm. In the differential count polymorphonuclears were 90 per cent, small lymphocytes 5 per cent, eosinophiles 1 per cent, and myelocytes 4 per cent. The urine was dark, specific gravity 10.30, 4 acetone and diacetic, and the sediment was not unusual except for 10–15 white blood cells per high power field.

A canula was immediately placed in the saphenous vein in the ankle, and 5 per cent dextrose in normal saline was started by intravenous drip. Wangensteen continuous suction was started at the same time. She was given demerol (½ of a 2 cc. ampule) every four hours for pain, and turpentine stupes were placed on her abdomen. After 36 hours of this treatment, a consultation was held with Dr. C. C. Glass, medical director of the hospital. It was his opinion also that, despite the desperate risk involved, the patient's only hope of recovery was in an operation; the family consented because of the extreme suffering of the patient.

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On Sept. 19 she was given 40 mg. of procaine in 2 cc. of spinal fluid by continual spinal anesthesia apparatus. This gave adequate anesthesia to make the abdominal incision. A left paramedian incision was used. On opening the abdomen, several loops of distended bowel were seen and the site of incarceration in the internal ring was found. An anastomosis was made between the afferent and efferent loops of bowel entering the internal ring. Some difficulty was encountered placing the sutures in the proximal distended loop on account of the poor condition of the bowel wall. The anastomosis was covered with omentum, and the abdomen closed in layers without drainage. She responded well to the operative procedure, a total of 125 mg. of procaine being used by fractional installation. She was not shocked. The Wangensteen drainage was continued, as well as the continuous intravenous drip. About six hours postoperatively, the drainage in the bottle changed from a fecal character to bile-colored, greenish fluid.

The mass in her groin continued to increase in size and became indurated about six days postoperatively. This was incised under local anesthesia, and several iodoform drains were placed in the abscess cavity.

The patient, thereafter, made an uneventful recovery. The Wangensteen drain was removed after 96 hours, and she was started on fruit juices. The intravenous fluids were also stopped 24 hours later, and she was given a soft diet. On the fifth day, enemas returned colored and with fecal material. She passed flatus on the fifth postoperative day for the first time since onset of illness. She was discharged from the hospital 14 days after operation. The abdominal wound was well healed. A fistula developed at the incision in the groin. This fistula caused some excoriation on the skin, but it was controlled using an aluminum paste advocated by Crile.[2]

Ten weeks after the operation, the fistula closed and the patient was eating regular meals, was up and about, and her condition was as good as prior to her illness.

Comment.—In a desperately ill and dehydrated patient such as one finds in a late gangrenous hernia, the short-circuiting anastomosis is less time-consuming and less shocking than excising both loops from the internal hernial ring and performing the resection with closure of both loops. Both, of course, immediately relieve the obstruction. It is also safer to do the abdominal operation first in a clean field, rather than after the gangrenous, septic, external mass has been incised, and the abdominal wall has been contaminated by the drainage from the gangrenous mass.

Finally, all of us should occasionally remember the couplet from Longfellow:

> "Ah! Nothing is too late.
> Till the tired heart shall cease to
> palpitate."

SUMMARY

In desperately ill patients with late hernias containing gangrenous bowel, it may be lifesaving to perform a short-circuiting anastomosis intra-abdominally near the point of strangulation. This immediately relieves the intestinal obstruction. Later the external gangrenous mass may be treated by simple incision and drainage.

This operation was used successfully in treating a 91 year old woman with a gangrenous hernia of eight days' duration.

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The Twelfth National Assembly, United States Chapter, International College of Surgeons

The meeting of the United States Chapter of the College, held in Chicago from Sept. 28 to Oct. 4, has now passed into history. The three thousand-odd surgeons, not counting families and friends, who gathered from so many countries to attend it, will not soon forget it. Lively interest, activity and color of a high order characterized this memorable occasion.

Fig. 1. Dr. A. A. Berg (right), President of the International College of Surgeons, greeting the Hon. Dwight H. Green (left), Governor of the State of Illinois, Dr. Max Thorek, Secretary General, in the center.

Addresses of welcome were delivered at the opening session by Drs. Raymond W. McNealy, General Chairman of the Assembly, Dr. Karl Meyer, Co-Chairman, and Dr. Warren Furey, President of the Chicago Medical Society.

Mr. Harry Truman, President of the United States, dispatched a letter which was presented to the Assembly by his personal surgeon, Brigadier General Dr. Wallace H. Graham. This letter follows:

THE WHITE HOUSE
WASHINGTON

September 30, 1947.

Dr. Custis Lee Hall,
President-Elect,
United States Chapter,
International College of Surgeons.

Dear Dr. Hall:

I welcome the opportunity to greet the International College of Surgeons and to send my best wishes for the success of the Twelfth Annual Assembly.

Today, when global thinking and international leadership are so urgently needed, your goal to create a common bond among surgeons of all nations, is especially laudable. I also commend the breadth of your objectives, which include promotion of the highest standards in surgery throughout the world without regard to nationality, creed or color.

Your activities should strengthen the work of the World Health Organization and contribute to better world health as well as to universal lasting peace. By establishing global cooperation in surgery, you set a precedent for international accord in other fields as well.

Health is a propitious field for international effort. The potential supply of health is unlimited and better health in any nation adds to the health of all. Recognizing that basic tenet, you have dedicated your organization to the principle stated by Pasteur: "Science belongs to no country because knowledge is the patrimony of humanity—the torch which enlightens the world."

May that torch be brightened by the achievements of your Assembly this year.

Very sincerely yours,
(Signed) HARRY TRUMAN

The daily scientific sessions brought out a large number of papers ably presented, which were the source of valuable ideas and improvement in technic. These sessions were very well attended. Similarly, the clinics arranged in the numerous hospitals of Chicago drew an interested attendance. The exhibits were crowded between sessions. The banquet became a merry get-together. The dedication of the new home was moving and heart-warming, and all who were present were conscious of the implications and promises involved. The convocation of new members was solemn and, in dignity and color, reminiscent of ancient ceremonies. For the record, the photographer was everywhere, preserving these numerous activities for posterity on monochrome and color motion picture film.

In retrospect it is clear that with each succeeding meeting a new peak is charted in the rising curve of growth and development of the International College of Surgeons. This occasions considerable satisfaction in all who have the future of the College at heart. It is a good, a pleasant and a satisfying emotion to see the material, healthy growth of what started so short a time ago. Now this erstwhile nucleus, this cell, is proliferating into widening fields with ramifications not even to be guessed at as yet.

It is a good thing, a valuable thing, for surgeons from all over the world, from foci of scientific work scattered around the globe, to be able to get to-

gether and match progress, compare ideas and sharpen scientific minds upon the whetstone of mutual exchange. It is a good thing, a valuable thing, for men of science to be able to speak together of matters that are of social import to the world from points of view that are local in inception, but international in scope. It is a good thing, a valuable thing, for men of many races to meet and so be reminded that fundamentally human beings share common needs, hopes and desires and that humanity has universal rights above national boundaries.

With this, the largest national meeting of the College to date, now in the past, it is well to pause and consider the responsibilities of the International College of Surgeons. In a world driven by unrest, with the flame and smoke of racial intolerance and national persecution pockmarking the inhabited portions of the earth, a body of men such as this, drawn from all races and nations around the world, stands in a position of great potential leadership that cannot be dismissed or ignored, and of responsibility that cannot be shrugged away. The surgeon sees all people, learns to know all situations of human happiness and despair, of physical loss and bitterness of spirit. He enjoys the confidence of men to a degree no other person, with the possible exception of the man of God, can boast. He occupies, therefore, a position peculiarly fitted to foster tolerance and understanding in and between peoples.

As men of science, members of the International College of Surgeons have available not only the opportunity to increase individual scientific knowledge and skill through their worldwide fellowship, but also the greater responsibility, by precept and teaching, to widen tolerance, enlighten prejudice and, by sheer position and profession, to fight the elements of race discord and disaster.

Bearing in mind such responsibility and opportunity there is no limit to the higher functions of the International College of Surgeons.

DEDICATION OF HOME

On Thursday, October 2, 1947, in the presence of a large number of members, their families and friends, the new home of the International College of Surgeons was blessed and dedicated. As speaker followed speaker, those who listened could not but be moved by the sense of dedication that pervaded the ceremony. Nor could one help but be aware of the deep mutual respect and personal affection that shone through the words of those whose mutual untiring labors and unstinted encouragement made this home possible.

The crowd that filled the large rooms to the last corner heard a touching story of unswerving confidence and of determination in the face of all obstacles that culminated in so happy an occasion. Eyes were moist, as the heart is ever touched by the story of a high ideal brought to purposeful fruition. None present will forget this momentous occasion, but will long remember what passed here.

The purposes which this home is to serve are already numerous and will increase with time and with the growth of the College throughout the world. For one thing, here will be housed the library with its services, through which members of the College may keep abreast of scientific activities and developments in every quarter devoted to progress in surgery and allied sciences. For another, this will be the home of the JOURNAL which in its widening usefulness promises to become an open forum for the profession. The home will be a clearing house for ideas and activities.

Rear Admiral J. Cary Jones, USN, Commandant of the Ninth Naval District, gave the following address:

I consider it a very great honor not just to me—but to the Service of which I am a member—that I was invited to address such an eminent and distinguished group.

The International College of Surgeons, with its high aims, its democratic principles, its work in teaching and guiding young doctors, and its great contributions to the advancement of surgery in general, is truly a most valuable asset to our modern civilization.

When I first read your program, I was impressed by the titles of the papers to be presented at your scientific sessions. Although it was difficult for me to guess the nature of much of the subject matter, it is evident that long hours of research and intensive study must have preceded the conclusions propounded in each instance.

The mutual desire of you gentlemen, representing nations all over the world, to meet together and to share your knowledge, experience and discoveries with brother surgeons, is an inspiration to me, and you truly set an example which our world statesmen well might follow.

Why not adapt this feeling of brotherhood to relationships between our national and world leaders? Why not adapt the medical procedure for curing human ills—(diagnosis, treatment, rehabilitation, with new and improved methods resulting from never-ending research)—to restoring the health of a sick world?

(I think we all will agree that the world is ill, and very seriously so.)

What would be your diagnosis, gentlemen? What, specifically, are the malignancies that threaten world peace, and what surgery would you employ? What virus invades the bloodstream of international goodwill, and what serum would you inject? What retards our recuperation from the War's trauma and shock, and what palliatives would you prescribe?

The end of World War II has not brought the peace and security that we had hoped for. Although the spread of Nazi and Fascist doctrines has been arrested by force of arms, the cancer of leftist

Fig. 2. Twelfth Annual Banquet, International College of Surgeons, United States Chapter, Palmer House, Chicago, Oct. 1, 1947.

totalitarianism, no longer benign, is threatening the very nerve centers of democracy.

Many nations, under economic and political pressure, have sacrificed individual liberties and have resorted to state control in an attempt to find relief.

To discredit government by the people, subversive forces are at work creating antagonisms between nations, classes and creeds. Adherents to the Marxist ideology have been extremely successful in retarding postwar reconstruction. Pride in their accomplishments is illustrated by the anecdote concerning the doctor, the lawyer, the architect, and the communist who were having dinner together.

They were engaged in a heated discussion as to which profession had first been established in the world.

"My profession, of course," said the lawyer. "Man could never have survived without laws to govern him."

"I disagree," said the doctor. "Without a gynecologist, how could Cain and Abel have been born?"

The architect refuted, "Long before that, my friends, some architects surely must have been on the job bringing order out of chaos."

"Ah, ha" beamed the communist. "And who created the chaos?"

Recovery from the war, already slow, has been further retarded by the toxic nostrums of dictator nations. Both Europe and the Far East are the continued victims of economic and political epilepsy. Adverse conditions in the smaller nations add to world unrest and increase the problems of those who seek to control the epidemic.

World conditions have deteriorated greatly in the past two years, and the prognosis is grave. The United Nations has been seriously debilitated by the inept use of the veto. The atom bomb remains uncontrolled with no immediate prospect of a satisfactory solution of the problem. It is not yet known whether our policy will be an effective antidote for the chaos and communism of Greece. So many nations are suggesting other ingredients for the Marshall Plan that the final concoction may be difficult to emulsify. Egypt, the Balkans, India, Indonesia, Palestine and China, all breed germs of unrest that intensify the world's fever of bitterness and violence.

Since history began, individuals and groups, as well as nations, have become involved in controversy and conflict. Those in power too frequently have sought to subjugate their own as well as neighboring peoples. For millenia, wars have been fought for one reason or another, and no effective vaccine yet has been devised to immunize humanity.

Reviewed chronologically, man has become increasingly competent in eradicating his fellow beings:

The Greeks, Romans and Spartans were able to kill one man with a spear or an arrow; Napoleon, with a single cannon ball, was able to kill twelve; Germany's Big Bertha of World War I eliminated 84 at one firing, but an improvement in World War II, the V-2 bomb, raised the ante to approximately 160. One atom bomb was dropped on Hiroshima, in the summer of 1945. The score was 134,000 killed and wounded.

What has happened to the dignity of man? Must he, like a jungle animal, resort to refuge in caves and to eternal vigilance to insure his liberty?

All of you know the worship of Aesculapius, the god of medicine, was introduced into Rome, about 293 B.C., in response to an oracle of the Sibylline Books promising relief from the plague. How can you modern followers of this ancient deity employ your extraordinary talents to rid this earth of pathologic rule by the sword, to heal its tumors and ulcers, its fractures and lacerations, and make it whole again?

I believe you will agree that democracy, and democracy only, furnishes the political framework for individual freedom and the survival of reason. But the success of any democracy depends on the full participation of its citizens in the affairs of government. When you return to your home communities, use your prestige and influence to stimulate interest in civic affairs; see that your children, and your neighbor's children are taught all the elements of good citizenship, as well as the meaning of our democracy, and that the future of democracy is in their hands. A deep appreciation of national heritage, thus stimulated, will be the best possible antidote for subversive propaganda, and will give us strength for recovery and future growth.

Effective defense of democracy, and of civilization in general, does not consist of drifting into wars and then winning them after an all out struggle. We must use our powers and our organized resources in such a way that war cannot take place.

We must realize that we are a part of the world in every sense, and if we are to be able to live well in that world, we must educate ourselves in the affairs of peoples everywhere. Through this great international organization, you are in a unique position to acquire not only a general, but an intimate knowledge of world problems. Through your clubs and fraternal organizations you have many opportunities to share this knowledge with your fellow citizens.

The menace of mass-destructive weapons, whether atomic, biological or still dormant in the imaginative processes of the human mind, causes us to view with no inconsiderable concern the prospects of another war, and to hope most fervently that the gestation period of the United Nations will not be a long one, else man will destroy himself before his means of preservation is born.

But we must have faith that the United Nations eventually will succeed. In many ways its problems are far greater than those of the 13 colonies which eventually were fused into the federal government of these United States. Let us hope that it, likewise, will grow in stature and gain in strength with the passage of time.

Persistence, patience, leadership and favorable public opinion are needed if difficulties are to be overcome. Mutual understanding will permit realization of the United Nations' great purpose within the framework of the present charter.

In the meantime, the intelligent employment of power, which includes economic assistance to other nations, is essential as an instrument of national policy to prevent war and to maintain peace.

Surgery requires not only a high degree of skill and perfection of technique, but those who practice it successfully must possess an unusual degree of human understanding.

In my opinion, if those entrusted with the welfare of nations were imbued with the ethics and moral codes that are yours, the United Nations' heart would beat full and rhythmically. Its pulse would be strong and regular, and the General Assembly and Security Council would be the diastole and the systole of a peaceful world.

I believe the world would respond in much the

same manner as the wife of a young Navy doctor upon his return from overseas duty. As she ran to meet him and threw herself in his arms, he whispered tenderly: "It is wonderful to be with you again, sweetheart. But why are you crying? Let me kiss those tears away?"

She relaxed in his arms. He kissed her again and again, but the tears continued to flow. Breathlessly, he asked:

"Will nothing stop them, darling?"

"I'm afraid not," she murmured contentedly, "it's hay fever. But please continue the treatment, doctor."

Without disease, the human body is presumed to be a healthy and efficient organism. Without aggressor nations and the insidious doctrines they promulgate, the world would be a better place in which to live. Through propaganda and infiltration tactics, their spirochete has already invaded the living tissues of many countries. Let us then, without further delay, devise a salvarsan to preserve democracy. And let us establish a clinic of international cooperation to provide continuing and effective treatment for the world's ills—giving health and security—not to one nation, one color or one creed, but to all mankind.

Fig. 3. Left to right: Dr. John Hertz, Copenhagen; Dr. Max Thorek, Chicago; Dr. Lyon Appleby, Vancouver; Dr. Arnold Jirasek, Prague; Dr. Raymond McNealy, Chicago; Dr. Leif Efskind, Oslo; Mr. Zachary Cope, London; Dr. Andrew Hedri, Budapest.

Dr. A. A. Berg, President, spoke as follows:

"'Great trees from little acorns grow.'

"It is needless for me to tell you that the sight of all the elegance and beauty of this new home of the International College of Surgeons and the United States Chapter is awe-inspiring and breath-taking. In memory I go back to a dinner held at the New York Academy of Medicine. It was a small dinner attended by only a dozen or so, men who had come together to form the United States Chapter of an International College of Surgeons. The idea of such an organization, international in scope, had been in Max Thorek's mind for many years, and on his trips abroad he had instilled the idea in the minds of the leading surgeons on the continent of Europe. At that meeting in New York the birth pains signalizing the emergence of the infant organization were not severe. Its conception had been motivated by no prejudice, nor feeling of jealousy, envy or unfriendliness to existing organizations. The early months following its birth were not particularly trying. On the contrary, the idea of an international organization appealed to the best men of the surgical profession the world over. Professor Jirasek became our first International President, Professor Dean Lewis of Johns Hopkins University the first president of the United States Chapter. The teething period of our life was much more stormy. Black clouds appeared in the sky and for a time threatened our existence, but our determination to give our lives and hearts to the cause, to swim or to sink, live or die, survive or perish, helped us to overcome and surmount our trials and troubles. We had resolved to build a new College, conceived in friendship and dedicated to the idea of bringing together the surgeons of the world for their mutual education, for the development of the science and art of surgery, for stimulating research with the ultimate goal of helping humanity.

"In our childhood and adolescence we have had bright days and dark days, and now in our early manhood we are commencing to reap the fruits of all our efforts. We may well apply to ourselves the closing lines of Longfellow's 'Building of the Ship':

> "'In spite of rock and tempest's roar,
> In spite of false lights on the shore
> Sail on nor fear to breast the sea.'

"This wonderful assembly of more than 3,000 of the best surgeons of our own land and the foremost surgeons of 17 foreign lands, and this meeting here tonight to dedicate this new home, are unqualified proof of the intrinsic worth of our purpose, and the success of our resolve and our work.

"I will close these remarks as I commenced them. A tiny acorn was planted by tender hands. It was nourished by faith and watered by tears. It sent down roots and soon a little sapling formed. Fed by hopes and prayers, the sapling grew into a promising and sturdy tree and stands today a staunch oak in the forest of our sister organizations. Gentlemen, I give you the lines of Robert Browning's 'Rabbi Ben Ezra':

"'Grow old along with me,
The best is yet to be,
The last of life for which the first was made!'"

The inspiring address of Dr. Herbert Acuff follows:

"We meet to dedicate this beautiful Home and Library to the service of the membership of the International College of Surgeons. The palatial stone mansion which houses the library is the inarticulate expression of strength, of protection, of beauty, but the books which will live within truly enrich the mind and the soul.

"Books are indeed the chief assurance of the perpetuation of our civilization today. They are both factual and imaginative in type. They preserve the patterns of our past from which our present and future lives shall be fashioned. Good books are truly the silent visitors of the immortal philosophers of past ages. Without them how could we know of the dramatic masterpieces of Shakespeare and Moliere, the scientific treatises of Galileo, Newton and Darwin or the philosophy of Aristotle?

"In the science of medicine and surgery we turn back to the pages of our books and converse in silence with Galen, Hippocrates, Bassini, Koch, Harvey, Osler and the many others who went before. These pages are the voices, long silent, which speak to us out of the storied past, record the charted way for the right and plead for the avoidance of wrong. The building, strong and defiant as it now stands, cannot compare in the years of its life with the perpetuity of the written archives of lives and deeds of heroes and scientists as they pass on through the corridors of the centuries untarnished and unchanged.

"Truly good books, written on any phase of the sciences or arts, possess greater longevity than any physical monument, though it be cast in bronze or stone. An example in point is that the proverbs of Plato and the verses of Homer have endured for more than two thousand years without the loss of a single syllable, yet they have seen the Parthenon of Greece and the Coliseum of Rome, both colossal structures, crumbled by the wear of the ages into their mother dust. In our library will be placed the finest books of medicine and its allied sciences. We shall have books which were old when Shakespeare and Vesalius were born, and books which came from the press but yesterday. Thus does a library link the thoughts of the sages, philosophers and scientists of all the years by bringing together within its walls the assembled thoughts and expression of the mind of those whose contributions to literature and history have been accepted as worthy.

"Books of culture have stood the test of investigation by scholars and students throughout the centuries and truly do they deserve such immortality, for they transmit to the living and to the millions yet unborn the chronicles of achievement and failure, which together comprise the story of mankind. They not only preserve knowledge but propagate it by casting their seed in the mind of successive generations, so that they may bear fruit abundantly in both action and opinion. Indeed, it may well be considered that the measure of a nation's progress in world civilization is its production of books that are worthy to live.

"In the realm of medicine and surgery we too pursue our search for knowledge and progress through the trials and errors of those who have gone before. Each contribution in the pioneer days of surgery has served as a challenge for newer concepts in our present time, and what we consider as orthodox today may well be transformed into still more efficient and progressive methods by those who shall live after us. This progress will come, in my humble opinion, in the field of physiology and biochemistry. Thus it is apparent that the achievements of the past should be preserved for the future in the written record, and that these should be made available at a central library, well staffed by those who, by training and experience, can search out the essential facts of any given article or book and present the abstract only to the busy surgeon.

"This Home and Library was conceived by the Executive Council of the United States Chapter of the International College of Surgeons at a meeting in Philadelphia in the year 1944. The idea was presented to the House of Delegates in Washington, D. C., and to the International Board of Trustees which gave its approval and endorsement. The question of location was determined by the House of Delegates at its meeting in Detroit in 1946. Chicago having been selected on the basis of central geographical location, accessibility to all sections of the country and therefore to the membership of the College, a committee was appointed to secure an available site for the home. After consideration of many properties the present location was selected.

"The Home is located at 1516 Lake Shore Drive overlooking beautiful Lake Michigan and the wide boulevard in front. It was built by the late Edward T. Blair for his own home. The construction is of gray Bedford stone with architecture of the Italian Renaissance period. It is four stories and basement in height, contains some 30 large and spacious rooms which lend themselves for the purpose of conferences, offices of the College, Editorial Rooms, and for the books in the library. The interior is of the most superlative finish in oak, walnut, gum and with a circular stairway of white carrara marble. An elevator is also installed.

"The property lends itself easily to expansion since there is an additional depth of some 50 feet of the lot which is now used only as garage and waste space. Additional auditorium space, museum rooms, specialists' rooms, where only books of the respective specialties may be housed, can easily be made available. This new portion of the building might well be built several stories high, the city building code permitting, and finished in tower design which would be an outstanding architectural contribution to the Gold Coast of Chicago.

"Another alternative for future consideration is the construction of a fifth floor on the present structure with or without the building in the rear. For the present the building is entirely adequate for the requirements of the College, but I can envision the day in the not too distant future when the Interna-

Fig. 4. Reception, Palmer House, Oct. 1, 1947. Left to right: Dr. A. Santaella, Puerto Rico; Dr. Arnold Jirasek, Prague; Mr. Zachary Cope, London; Dr. R. N. Cooper and Mrs. Cooper, Bombay; Dr. Leon Gillis, Roehampton, England; Mrs. Baliga and Dr. Baliga, Bombay.

tional College of Surgeons and the United States Chapter will require not only all of the present space but the projected expansion as well.

"By negotiation and agreement, the United States Chapter has sold to the International College of Surgeons a one-half undivided interest in the property. By decisive vote of the International Board of Trustees this property has been designated as the Home of the International College of Surgeons as well as the Home of the United States Chapter.

"In selecting this property we have anticipated the rapid growth and expanded facilities which shall be required by the increased membership. It is not extravagant to predict that within a period of 10 years, the combined classes of membership in this College will exceed 10,000, and the books in our library will exceed by 10 times the total membership.

"If we are to expect the Matriculate, the Affiliate and the Associate to prepare for Fellowship in this College, we have an obligation to make possible a service where the latest in medical literature may be made available. As a part of the function of the library, it is contemplated to have the leading books and medical journals of every country in the world housed here; to have a librarian and a staff of interpreters, who will abstract the latest developments in surgery in each of the foreign countries and pass this service on to the membership through an abstract supplement to our splendid JOURNAL of the International College of Surgeons. It is also planned to increase the staff of the distinguished Associate Editors in foreign countries, when other Chapters of the International College of Surgeons may be formed.

"I would be untrue to my deep sense of appreciation if I did not mention the names of some of those whose efforts have meant so very much in the selection, purchase and remodeling of this Home and the establishment of the Library:

"Dr. and Mrs. Max Thorek; the Building Committee, consisting of Dr. Raymond McNealy, Dr. Karl Meyer; Dr. Lou Gariepy, Secretary of the United States Chapter; the members of the International Board of Trustees; Mr. Norman Littell, General Counsel of the College; and Associate Counsel for this transaction, Mr. Francis Gariepy. Toward these we shall forever feel the deepest homage.

"Finally, the true Founders of this Home and Library are those Regents, Vice-Regents and Members whose material contributions in legal tender have made possible this worthwhile enterprise. It is therefore a fitting tribute that the names of those men shall be placed upon an entablature within this building as a silent attestation of their vision, their confidence, and their generosity.

It is my sincere desire that the facilities of this

library shall be rapidly increased in well-selected books, journals, reprints and in service to the end that we shall keep faith with the Founders whose memory we cherish and shall strive to perpetuate throughout the ages. Those names to date are as follows:

Home and Library Fund

An incomplete list of those who have thus far contributed to the Home and Library Fund of the International College of Surgeons and the United States Chapter follows:

Dr. Herbert Aeuff
Dr. Clarence Adams
Dr. William M. Adams
Dr. Leard R. Altemus
Dr. Lial S. Anderson
Dr. Mallory Andrews
Dr. Lorrimer Armstrong
Dr. Charles H. Arnold
Dr. Daniel G. Arnold
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Dr. Warren Babcock
Dr. Suren S. Babington
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Dr. Francis T. McGinnis
Dr. Louis D. McGuire
Dr. Charles H. McKenna
Dr. Felix A. Mackowiak
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Dr. K. L. McShane
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Dr. Ronald L. Redfield
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Dr. Meshel Rice
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Dr. Lee W. Storey
Dr. Louis Strahlmann
Dr. Alfred Strauss
Dr. Ford M. Summerville
Dr. Edward J. Swastek
Dr. Richard W. Terrill
Dr. J. E. M. Thomson
Dr. Max Thorek
Dr. Philip Thorek
Dr. Robert M. Toll
Dr. Harry W. Topolosky
Dr. I. Traetenberg

Dr. Chester W. Trowbridge
Dr. Horace E. Turner
Dr. George H. Van Emburgh
Dr. Roger A. Vargas
Dr. Paul C. F. Vietzke
Dr. Charles B. Voigt
Dr. Audiss Moore Walker
Dr. E. Le Grand Ward
Dr. Leigh F. Watson
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Dr. Burton A. Weil
Dr. Charles C. Weitzman
Dr. Perry H. Wessel
Dr. David J. Wexler
Dr. Charles S. White
Dr. Paul O. Wiig
Dr. Geoffrey Williams
Dr. Maurice R. Williamson
Dr. John M. Wilson
Dr. Albert Frank Wittman
Dr. George A. Wright
D. James L. Wyatt
Dr. Frank W. Yocum
Dr. J. Rudolph Yung

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Mrs. Gail Brook Burket composed and read the following poem on the occasion of the Dedication of the Home:

Within these portals may men ever find
The vaster new horizons of the mind,
A boundless sympathy for human need,
And brotherhood unmarred by race or creed.
May those who enter know the blessed sight,
Conferred by growing truth's more perfect light,
Which will reveal to scientist and sage
The challenging potentials of the age.
May those who go away take from this place
Unswerving purpose and unfailing grace
That they may carry hope and healing where
The sufferers now face profound despair.
Here let each deed and purpose be designed
To glorify our God and serve mankind.

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CONVOCATION

The Convocation took place at the Medinah Temple on Friday, Oct. 3, with Dr. Raymond W. McNealy as General Chairman and Dr. Herbert Acuff presiding. On the stage were assembled the International Officers, the United States Officers, Regents, Committee Members, Delegates, Consular Representatives and Guests. During the processional, led by Dr. Francis D. Wolfe as Marshal and followed by the Officers and Candidates of the various ranks to be inducted into the International College of Surgeons, the national flags of the Chapters were displayed in a colorful spectacle. The Invocation was read by Rev. William J. Ohan, of the Bethany Presbyterian Church. Presentation of the Colors followed, together with the singing of the National Anthem.

Dr. Herbert Acuff read the memorial service in honor of deceased members, who are the following:

Prof. Dr. Dario Fernandez Fierro, Mexico City, Mexico
Prof. Dr. Herman de las Casas, Caracas, Venezuela
Prof. Dr. Rafael Angel Grillo Ocampo, Costa Rica
Sir Aly Pacha Ibrahim, Alexandria, Egypt
Prof. Dr. Don Gonzalo Castaneda, Mexico City, Mexico
Dr. Edith Gosh, Calcutta
Dr. William J. Carrington, Clinton, Iowa
Dr. Clarence H. Christiansen, Superior, Wisconsin
Dr. Samuel Arthur Flaherty, Detroit, Michigan
Dr. Louis Richard Haas, Pittsburgh, Kansas
Dr. Eric Albert Hartley, Chicago, Illinois
Dr. Gabriel J. Jack, New Haven, Connecticut
Dr. James E. King, Buffalo, New York
Dr. Kenneth Earle Lowman, Coronado, California
Dr. George L. Schneider, Williamsport, Pennsylvania
Dr. John Rudolph Emil Sievers, Butte, Montana
Dr. Frederick Douglass Stubbs, Philadelphia, Pa.

Dr. Acuff then made the presentation for induction of candidates from the United States Chapter to Dr. A. A. Berg, President of the International College of Surgeons. He spoke the following moving words:

You are now about to become members of the United States Chapter of the International College of Surgeons. To have attained this honor, regardless of the rank to which you have been elected, has required work, study and close application to your professional duties.

Your standing in your community, socially and morally, has been evaluated. Your training in surgery, your hospital affiliations, your relation to fellow surgeons and practitioners of medicine with strict regard to cryptogenic compensation as a gratuitous gesture under whatever guise it may masquerade for volume or profit—all have been investigated.

Your presence here tonight is evidence that your record is clear and that you have conformed to the high standards of the International College of Surgeons.

The organization of which you are now a part was organized in 1935. It was founded to create a common bond of friendship and for the exchange of scientific surgical information with surgeons throughout the world. It knows no geographical boundary, is not limited in scope by creed, color, race or religion. It is dedicated to the aphorism so beautifully stated by the immortal Pasteur that Science belongs to no country because Knowledge is the patrimony of humanity—the torch which enlightens the world.

The International College of Surgeons is in fact an association of teaching chapters of either existing national organizations or of those to be formed in the various countries of the world. It seeks to exchange ideas and methods, to form basic levels for the elevation of Surgery, to engender good will and friendship, *to infringe upon the program or premise of no existing organization operating upon a national level in any country.* Conceived in altruism, it would extend an invitation to the surgical organizations in every country which, by precept and example, have conformed to the accepted standards of other ethical surgical organizations throughout the world. It further seeks the standardization of procedure so far as possible to the end that statistical data of case reports, etc., may be interpreted on a comparable basis from all of the countries of the world.

The International College of Surgeons is cohesive

in structure, being composed of a central body and national chapters, which latter exist solely by virtue of charters issued by the College. Each Chapter in its own right is completely autonomous so far as its local government is concerned and so long as its activities conform to the high standards of the parent organization.

The College seeks to preserve the history of world surgery and to pay just homage to pioneer contributions, many of which have originated in other lands. Truly, should we give credit where credit is due along the line of procession of medical and surgical progress, we shall think back of the Babylonians, the Medes and Persians, the Code of Hammurabi two thousand or more years B.C. With the respect which they so richly deserve, we shall perpetuate the contributions of the surgeons in the Nile Valley as revealed to us by numerous papyri which have been unearthed by the geologist of our time. Surgical procedures are hereon recorded which antedate the birth of our Lord by three thousand years.

We would recognize and keep alive for future surgeons the surgical achievements of the Hebrew, the Chinese and the Indian in the dawn of their civilization. We shall forever perpetuate the memory of Aesculapius, considered to be the symbol of European learning, and shall cling steadfastly to the tenets of Hippocrates, the son of a Greek physician who lived 460–370 B.C., and whose summation of medical ethics has been immortalized in the Oath which bears his name.

Thus the foundation of Surgery, so ancient, so firm, has continued its progressive march of evolution down through the centuries until we arrive at our present level, whose standards we proudly hail in our own humble thinking as next to perfection. Could we return to earth three thousand years hence, who could say that we would not meet the same transformation in surgery that Hippocrates would find should he return to earth today?

I would remind you that nations and people are only great as they are able to remember the past and profit by the examples left in its wake. Historical experience is the collective remembrance that elevates

Fig. 5. Left to right: Dr. Francisco Fonseca, Mexico City; Dr. Herbert Acuff, President, United States Chapter; Dr. Manuel Manzanilla, Mexico City; Dr. Max Thorek, Chicago; Dr. Arnold Jirasek, Prague; Dr. Sixto Oroso, Philippines; Mr. F. Manzanilla, Mexico City.

men above the pettiness of their basic instincts toward the lofty thoughts of unselfishness. Then let us in reverence of the memory of the past proceed to implement our dream of a democratic pattern of life with the rebuilding of a war-torn world.

The International College of Surgeons recognizes the weaknesses of civilization as we find it today, and further recognizes that our world is rapidly becoming a neighborhood of nations and that we cannot be good neighbors unless we have a mutual understanding with our neighbors in relation to ourselves. Herein lies the further justification for a global organization of surgeons who can and will present to the world a solidarity of purpose, ideals and achievement to the end that the patient, uninformed, trusting and with implicit faith and confidence, may receive the method of treatment universally approved by the combined thinking of the surgical world.

In the pledge which you are about to take, you will find the embodiment of all that the International College of Surgeons represents. It will guide you in sane philosophy of ethical thinking and practice. It will protect you from plagiarism and will stimulate you to original thinking.

Finally, we must think of our College on an international level rather than on a national basis. We must realize that the world in which we live is the same world in which surgeons across the seas must live. When progress there is impeded, it has its effect on our own. We must, in self preservation, concede that we live in a world caught in the grip of fear and misunderstanding, with gigantic tools of destruction and annihilation at its disposal, and that we must learn to live together if we are to live at all.

As Surgeons of a World Organization we can and will do our part. The place of the International College of Surgeons in the history of surgery and surgical institutions is unquestionably secure.

His Royal Highness, Prince Mohamed Aly of Egypt, sent the following message:

To the Convocation of the United States Chapter of the International College of Surgeons, Friends:

Permit me to present my congratulations to this honorable Assembly and to thank you for your kindness in inviting me to participate in its splendid activities.

I would have been delighted to be with you, but at the age of 72 I am not sufficiently strong physically for extended travel, and so the pleasure of being with you today is denied me.

However, I take this opportunity of addressing a few remarks to you as evidence of the appreciation of a prince who is interested in all sciences and a man who has traveled throughout every part of the known world.

Since the time of the Pharaohs, Persia and Ancient Greece, men of medicine whose objective it was to restore people to health and to assuage pain, were respected as men of dignity and of highest calling. Indeed, it was thought that they were in direct touch with the Divinities.

Learned men of Greece were pupils of the great school of Alexandria in Egypt. Their names adorn the scrolls of achievement forever. We were taught that these great men of science were looked upon as princes.

God in His Almighty Wisdom has created man, whom He endowed with a brain to observe, to learn, and to acquire all knowledge that could benefit him in his existence on this sphere.

Men of medicine are a privileged class, for all doors of all homes are open to them. Night and day they are welcomed into the sanctity of every household. Yes, the doctor helps to usher the newborn child into the world and relieves the mother in her travail. He watches over the growing children and is consulted by the boy and girl as they blossom into manhood and womanhood to alleviate their illnesses and pain. He eases the sufferings of the old, supporting them in their weaknesses. I understand that a new science has grown up, called geriatrics, the opposite of pediatrics, and so from the cradle to the grave we find the sons of Aesculapius the friends, counsellors, and benefactors of mankind.

It is well known that 80 per cent of the success won by missionaries is due to the medical aid they have dispensed to savages and natives. This cements friendship and brings the white race into close contact with the black, the yellow, and the Indian of America.

The last war has shown a great upswing in the progress of medicine and surgery. To mention only a few, we have blood transfusion, atabrine, penicillin, sulfa drugs, and now streptomycin, agents heretofore unknown, which have saved the lives of multitudes of soldiers. Now we have the wonders of advanced brain surgery, heart surgery and surgery of the lungs and other parts of the body. I am even informed that sight has been restored to those who have lost that precious gift or who are losing it.

How magnificent are these things to contemplate! Or, as you say in America, "That is grand!"

Now let me just add a word on "Beauty Surgery," so often resorted to by ladies who are cursed by ugly noses, wrinkles, or any other defects of face or ear; they need not worry longer, for we know that the surgeon's scalpel can put all this right and make them beautiful. This is a new science which has sprung up since the last war. I feel confident that if my old friend, John Pierpont Morgan, were now alive, he would pay any price, however high, to change the contour and bulbosity of his nose!

Perhaps it is not amiss to state here that the medical men of Europe and America would gain much information from the knowledge which the Arabs used to cure their illnesses by burnings and bleedings, and also from the old Chinese method of pricking the muscles and nerves with pins. Who knows! Perhaps rheumatism may be easily dealt with by the Chinese method.

In bringing this message to a close, I wish to express my best thanks to the Committee who so graciously invited me, and wish every success to this great assembly of men of healing. May God Almighty, the merciful, bestow His blessings upon this gathering.

Dr. A. A. Berg then conferred academic and honorary degrees and granted charters to new chapters. A list of the Convocation, Class of 1947, follows:

INTERNATIONAL COLLEGE OF SURGEONS, UNITED STATES CHAPTER, CONVOCATION CLASS 1947

Fellows

Dr. Edward Ambrose Abbot, Holyoke, Mass.
Dr. Vincent Accardi, Gallup, N. Mex.
Dr. Lewis Albert Alesen, Los Angeles, Calif.

Dr. Jo C. Alexander, Dallas, Tex.
Dr. Hoyt Rinker Allen, Little Rock, Ark.
Dr. George Leonard Apfelbach, Chicago, Ill.
Dr. George Dewey Appold, Bergenfield, N. J.
Dr. James Ray Arnell, Jr., Denver, Colo.
Dr. Franz Arzt, St. Louis, Mo.
Dr. Lytle Atherton, Louisville, Ky.
Dr. Kenneth Lee Athey, Camden, N. J.
Dr. Horace Ernest Ayers, New York, N. Y.
Dr. Alfons Rosthorn Bacon, Chicago, Ill.
Dr. Leland Green Baggett, Atlanta, Ga.
Dr. Clifford Edward Bagley, Washington, D. C.
Dr. Louis Herbert Baretz, Brooklyn, N. Y.
Dr. Willard Bartlett, Jr., St. Louis, Mo.
Dr. Joseph Edward Bellas, Peoria, Ill.
Dr. Carroll Joseph Bellis, Long Beach, Calif.
Dr. Isidore Berger, New York, N. Y.
Dr. Samuel Gordon Berkow, Perth Amboy, N. J.
Dr. Millard Charles Beyer, Akron, Ohio
Dr. John Joseph Black, Brooklyn, N. Y.
Dr. Irving Henry Boemer, St. Louis, Mo.
Dr. John Radford Boling, Tampa, Fla.
Dr. Salo Marek Boltuch, New York, N. Y.
Dr. John Cullen Boodell, Chicago, Ill.
Dr. George Winston Botts, Norton, Va.
Dr. George Simmerman Bourne, Roanoke, Va.
Dr. James Payne Bridges, Abilene, Tex.
Dr. John C. Brougher, Vancouver, Wash.
Dr. Lawrence Edward Brown, Berkeley, Calif.
Dr. Lester Alexander Brown, Atlanta, Ga.
Dr. Joseph Cook Bunten, Cheyenne, Wyo.
Dr. Ralph Martin Burke, Port Huron, Mich.
Dr. Helen Louise Button, Chicago, Ill.
Dr. Peter Byron, Corona, N. Y.
Dr. Henry Leo Cabitt, Boston, Mass.
Dr. James Joseph Callahan, Chicago, Ill.
Dr. Edward Hastings Campbell, Philadelphia, Pa.
Dr. William Armstead Campbell, Colo. Springs, Colo.
Dr. William Bernard Campbell, Chicago, Ill.
Dr. James Campbell Carey, Joliet, Ill.
Dr. Claire Eugene Carr, Chicago, Ill.
Dr. James Thomas Case, Chicago, Ill.
Dr. Henry Edw. Christenberry, Jr., Knoxville, Tenn.
Dr. Kenneth William Christenberry, Knoxville, Tenn.
Dr. Roy Eugene Christie, Oak Ridge, Tenn.
Dr. James Francis Clancy, St. Louis, Mo.
Dr. Everett Porter Coleman, Canton, Ill.
Dr. Finis Gaston Cooper, Huntington Park, Calif.
Dr. Fred Brown Cooper, San Antonio, Tex.
Dr. Oswald O. Cooper, Feather Falls, Calif.
Dr. Olin Sanford Cofer, Atlanta, Ga.
Dr. John Kenner Coker, Bakersfield, Calif.
Dr. Maurice Hiam Cottle, Chicago, Ill.
Dr. Bert Hollis Cotton, Beverly Hills, Calif.
Dr. Harold Leroy Crane, Peru, South America
Dr. Michael Jay Crino, Rochester, N. Y.
Dr. Robert James Crossen, St. Louis, Mo.
Dr. Gilbert L. A. Dailey, Harrisburg, Pa.
Dr. William Paul Dailey, Harrisburg, Pa.
Dr. Arthur Ernest Dale, Danville, Ill.
Dr. Eugene Leon Dallwig, Milwaukee, Wis.
Dr. Francis Raphael Daniels, Rochester, N. Y.
Dr. Walter Wright Daniel, Atlanta, Ga.
Dr. August Fiora Daro, Chicago, Ill.
Dr. Darius Waterhouse Darwin, Woodward, Okla.
Dr. Harry Francis Davies, Washington, D. C.
Dr. Louis Davis, Newark, N. J.
Dr. William Aloysius Delaney, Sr., Mitchell, S. Dak.
Dr. Albert Pasquale D'Errico, Dallas, Tex.
Dr. Virgil Thomas DeVault, Lima, Peru
Dr. Andrew Achatius Dick, Chicago, Ill.
Dr. Leslie Allen Dickinson, Rochester, N. Y.
Dr. Martin Walter Diethelm, Toledo, Ohio
Dr. Earl Raymond Donathan, Knoxville, Tenn.
Dr. William Guy Doran, Jersey City, N. J.
Dr. Richard Eugene Doughty, Louisville, Ky.
Dr. Lawrence Ethridge Downs, Hollywood, Calif.
Dr. Max Charles Ehrlich, Chicago, Ill.
Dr. William Bernard Ein, Newark, N. J.
Dr. Larren Ray Ellars, Louisville, Ky.
Dr. James Barr Ely, Knoxville, Tenn.
Dr. Reinhold Milton Ericson, Minneapolis, Minn.
Dr. Robert Francis Farrell, Omaha, Neb.
Dr. James Grady Faulk, Monroe, N. Car.
Dr. Irving Everett Fink, Newark, N. J.
Dr. John Rudolph Finley, Cleveland, Ohio
Dr. Richard Marion Fleming, Miami, Fla.
Dr. Sherman Balch Forbes, Tampa, Fla.
Dr. Neslen Kelliher Forster, Hammond, Ind.
Dr. Harold Henry Fox, Miami, Fla.
Dr. Frank Fred Fraider, Chicago, Ill.
Dr. Herbert Frankenstein, Pittsburgh, Pa.
Dr. Morris Theodore Freidell, Chicago, Ill.
Dr. Arthur Robert Fuchs, Long Beach, Calif.
Dr. Thomas Francis Furlong, Jr., Ardmore, Pa.
Dr. Claudius Young Gates, San Francisco, Calif.
Dr. Charles Edward Gaupin, Louisville, Ky.
Dr. George William Gay, Ironton, Mo.
Dr. Aaron Harry Gerber, Washington, D. C.
Dr. Henry Chris Gernand, Los Angeles, Calif.
Dr. David Bernhard Gershenfeld, Newark, N. J.
Dr. Edward Oswald Gertenbach, Milwaukee, Wis.
Dr. Henry James Giamarino, New Haven, Conn.
Dr. Robert Berry Gibson, Ponca City, Okla.
Dr. Junius Albion Giles, Jr., Wilmington, Del.
Dr. Peachy Ridgway Gilmer, Shreveport, La.
Dr. Benjamin Elmer Glass, Plainfield, N. J.
Dr. Wadley Raoul Glenn, Atlanta, Ga.
Dr. Meyer Leo Goldman, New York, N. Y.
Dr. William Gordon, Philadelphia, Pa.
Dr. Bernard Norman Gottlieb, Brooklyn, N. Y.
Dr. Charles Clyde Grace, St. Augustine, Fla.
Brig. Gen. Wallace Harry Graham, Washington, D. C.
Dr. Leo Edward Grajewski, Detroit, Mich.
Dr. John Reuben Green, Independence, Mo.
Dr. Raymond Green, Chicago, Ill.
Dr. Bernard Harold Greenfield, Newark, N. J.
Dr. Alexander Hamilton Griffith, Jr., Oroville, Calif.
Dr. Robert Gutierrez, New York, N. Y.
Dr. Joseph Matthew Gutowski, Perth Amboy, N. J.
Dr. Chester Chappell Guy, Chicago, Ill.
Dr. Tyre Hagan Hale, St. Louis, Mo.
Dr. William Kelley Hale, Wilmington, Ohio
Dr. DeLou Perrin Hall, Louisville, Ky.
Dr. Joseph Daniel Hallinan, Richmond Hill, N. Y.
Dr. Theodore R. Hannon, Houston, Tex.
Dr. William Benson Harer, Philadelphia, Pa.
Dr. William Klipstein Harryman, Hackensack, N. J.
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Dr. Gah Theodore Bowers, Fort Wayne, Ind.
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Dr. Oliver W. Budge, Logan, Utah

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Dr. James Ivor Collins, Toledo, Ohio
Dr. Harold Alvin Conrad, Phoenixville, Pa.
Dr. Kyle Cornett Copenhaver, Knoxville, Tenn.
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Dr. Samuel Lentine Governale, Chicago, Ill.
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Dr. Charles Albert Steiner, Bryn Mawr, Pa.
Dr.*Frederick Douglass Stubbs, Philadelphia, Pa.
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Dr. William Vernon Wax, Catskill, N. Y.

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Dr. Mallory Sinclair Andrews, Norfolk, Va.
Dr. John Joseph Bedrick, Bayonne, N. J.
Dr. Edward Charles Brandt, Crestline, Ohio
Dr. Joseph Converse Brisson, Detroit, Mich.
Dr. Thomas A. Cortese, Indianapolis, Ind.
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Dr. Philemon Cheverton Roy, St. Paul, Minn.
Dr. Leopold Villareal, El Paso, Tex.
Dr. Perry H. Wessel, Moline, Ill.

Advanced to Rank of Affiliate

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Dr. Cornelius Mustill Hunter, Fargo, N. Dak.
Dr. Antonio G. Massimiano, Pittsfield, Mass.

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Prof. Dr. Raffaele Bastianelli, Rome, Italy
Mr. Zachary Cope, F.R.C.S., London, England
Prof. Dr. Hans Finsterer, Vienna, Austria
Sir Henry Holland, F.R.C.S., Quetta, India
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Prof. Dr. Miklos Temesvary, Budapest, Hungary

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Dr. Antonio N. Silvetti, Buenos Aires, Affiliate

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Dr. Hong-Joh Jui, Shanghai, Affiliate
Dr. Ping Kaung Loh, Shanghai, Affiliate

* Posthumous.

Dr. John Lien-sheng Shek, Shanghai, Affiliate
Dr. Laurence Tien-fu Wu, Nanking, Affiliate
Dr. Esther King Yiu, Canton, Matriculate
Dr. George Quan Lee, Canton, Matriculate

Colombia
Dr. Guillermo Lopez-Escobar, Bogota, Affiliate

Costa Rica
Dr. Enrique A. Alfaro, Turrialla, Fellow

Denmark
Dr. John Hertz, Copenhagen, Fellow

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Mr. Andrew D. Beattie, Leicester, Fellow

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Prof. Dr. Alexander Klossner, Helsinki, Fellow
Dr. Aarne Pelkonen, Helsinki, Fellow
Prof. Dr. Vaino Seiro, Helsinki, Fellow

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Dr. Bhalchandra N. Purandare, Bombay, Fellow
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Prof. Luigi Biancalana, Turin
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Dott. Francesco Maddaloni, Turin
Prof. Edmondo Malan, Catania
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Prof. Luigi Migliardi, Turin
Prof. Giorgio Psacharopulo, Turin
Dott. Mario Peracino, Turin
Prof. Vittorio Pettinari, Milan
Dott. Dante Sabaino, Turin
Prof. Marino Sacchi, Turin
Dott. Vittorio Sapegno, Turin
Prof. Stefano Teneff, Turin
Dott. Giuseppe Veronesi, Alessandria
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Prof. Ignazio Abbo, Albenga
Prof. Pasquale Abruzzini, Naples
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Prof. Pietro Bezza, Cesena (Forli)
Prof. Antonio Comolli, Firenze
Prof. Giuseppe Coniglio, Catania
Prof. Giovanni Costamagna, Fossano
Prof. Guido Cucco, Turin
Prof. Luigi Di Natale, Milan
Dott. Carlo Lorenzetti, Lodi
Prof. Gaetano Mangione, Firenze
Prof. Andrea Marro, Limone, Piemonte
Prof. Antonio Mezzari, Trieste
Prof. Luigi Molinengo, Turin
Prof. Enrico Packner, Genoa
Dott. Renzo Pecco, Como
Prof. Luigi Pierangeli, Pescara
Prof. Fernando Placeo, Asmara
Prof. Ugo Stoppato, Firenze
Prof. Francesco P. Tinozzi, Pavia
Prof. Raffaele Chiarolanza, Naples
Prof. Cristoforo Colombo, Turin
Dott. Antonio Lo Celso, Gela
Dott. Angelo Pagano, Turin
Prof. Gian Carlo Parenti, Turin
Dott. Carlo Re, Turin
Dott. Luigi Solerio, Turin
Prof. Enrico Zilocchi, Pesaro
Prof. Giovanni Bertini, Biella
Prof. Carlo Felice Bianchetti, Ivrea
Prof. Mario Fasano, Asti
Prof. Giorgio Ferreri, Rome
Prof. Alberto Fusari, Turin
Prof. Giovanni Mario Giuliani, Genoa
Prof. Alfredo Jachia, Turin
Dott. Luigi Pierangeli, Milan
Prof. Franco Stoppani, Turin
Prof. Salvatore Cimino, Palermo
Prof. Gustaro Raimoldi, Turin
Prof. Virginio Silvestrini, Gattinara
Prof. Alfredo Rindone, Palermo
Prof. Domenico Cesare Gabetti, Bordighera
Dott. Luigi Castello, Ivrea
Prof. Armando Lauro, Palermo
Dott. Gian Carlo Morando, Genoa
Dott. Carlo Leo Muttini, Turin
Prof. Federico Rabboni, Palermo
Dott. Antonio Tesoriere, Palermo
Prof. Lorenzo Vernetti, Genoa
Prof. Giovanni Cavina, Firenze
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Prof. Michele Pavone, Palermo
Prof. Michelangelo Sorrentino, Naples
Prof. Torquato Cadzolari, Ozzinuovi (Brescia)
Prof. Giorgio Dei Poli, Turin
Prof. Grasso Rosario, Rome
Dott. Giuseppe Costa, Turin

Netherland West Indies
Dr. Howard C. Tjon Sie Fat, St. Maarten, Associate

Norway
Prof. Dr. Leif Efskind, Oslo, Fellow

Palestine
Prof. Dr. Ludwig Halberstätter, Jerusalem, Fellow

Panama
Dr. Gustav A. Engler, Almirante, Associate

Philippines
Dr. Jose Y. Fores, Manila, Fellow
Dr. Quintin J. Gomez, Manila, Fellow in Anesthesia
Dr. Luis A. Vazquez, Manila, Matriculate
Dr. Glicerio V. Valera, Manila, Matriculate
Dr. Pacifico Chan Yap, Manila, Matriculate

Portuguese East Africa
Dr. Adolfo A. Arez da Silva, Beira Moçambique, Fellow

South Africa
Mr. Lee McGregor, F.R.C.S., Johannesburg, Founder Fellow

Sweden
Prof. Dr. Johan Cedermark, Stockholm, Fellow

Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, then read the Introduction of the Convocation Speakers. As the first, Dr. Wm. Carpenter MacCarty, Sr., of Mayo Clinic, spoke on "Some Common Factors in Internationalism," as follows:

Mr. President, distinguished guests, fellows, associates and affiliates of the International College of Surgeons and friends: We are here this evening as an international organization, one of the many that are appearing upon the sociological horizon for the correction of the faults of our present civilization. What does this phenomenon mean biologically to one who has seen and studied life in its smallest and largest details, in its interesting variety and wide distribution? If I see, correlate and generalize correctly there are two great universal fundamental and very vital natural philosophies of life which may be called individualism and collectivism. According to some they are everlastingly in conflict. Thus we hear of "the struggle for existence," "the survival of the fittest," "man and superman," and other immature and only partially correct concepts which have been built too frequently into popular human ideologies and behavior. These have very probably done great harm in the natural development of a sane civilization. The harm has not been lessened by such misleading popularized slogans as "labor," "capitalist," "imperialists," "fascists," "economic royalists," "war-mongers," and even "democracy." As a matter of scientific fact had it not been for individualism there could have been no life; and without collectivism man, other animals, the trees and the flowers would never have existed. Had there been no combination of both no multicellular life could have endured.

Throughout the history of man's numerous and varied civilizations there have been both individualistic and collectivistic leadership. Rarely have man's ideologies and philosophies been collectivistically individualistic; rarely has it been popularly realized that the perfection of the whole depends upon the perfection of the parts and their necessary correlation and coordination. Nature has succeeded by virtue of correlated and coordinated inequalities rather than equalities. The only equality is found in the right to eat out of a common trough and have common defense.

Under the heading of collectivistic leadership we have had many religious leaders and some rare, great sociologic, economic and political statesmen. Their followers, unfortunately, have too frequently failed to follow their leaders; too often they have become sectarian with all of the faults of sectarianism.

We are beginning to learn the rationality of both philosophies in combination: we have begun to improve individuals through general physical education, sanitation, and health programs both in and outside of our schools; we are beginning to see evidence of natural and intelligently applied collectivism in the many international organizations, in UNRRA, the United Nations effort, in the recent Pan-American consolidation, in brotherhood movements, in inter-religious assemblies, in inter-denominational groups of all kinds, in the religious, racial and political freedom of our public schools, and in the relatively new principle of arbitration that has begun to replace physical violence. In my opinion, the chief obstacles to progress seem to be differences of language and sectarianism, the former causing misunderstanding and the latter being usually associated with ignorance, intolerance, fanaticism and cruelty. Apparently the only remedy is a generally accepted non-sectarian philosophy of life and a common language.

You might be interested in just how and why I became internationally, humanitarianly and non-sectarianly minded. It happens that I am of English, Scotch, Irish, Flemish, Swiss, Spanish and Grecian origin. My last foreign ancestor came to the United States 293 years ago. My nationally, religiously and linguistically different corpuscles seem to be at peace with each other.

The first book with which I came in contact, after the Mother Goose stories, was called 'The Uncivilized Races of Man," published in London and New York in 1873. In that book were described and illustrated the various manners, customs and physical, social, mental, moral and religious characteristics of people of all countries. From that book I learned that all human beings were not of my home state, the United States or even from Europe; they were not all Anglo-Saxons and they were not all white.

At the age of thirteen I attended the Columbian Exposition or World's Fair of 1893 in Chicago. I saw "civilized" and "uncivilized" human beings with great differences of color, dress, customs, habits, superstitions, crafts, arts, religions and languages. Then I studied anatomy, physiology, psychology, biology, anthropology and sociology as well as the history of religions and governments. I learned that stomachs, hearts, emotions and mental aberrations are pretty much the same for all human beings and even other living creatures.

For two years I was an assistant to a professor in Germany; we taught graduate students from Poland, Russia, Italy, Switzerland, Austria, Hungary, Sweden, Denmark, Norway, Spain, England, the United States of America and several other countries of North and South America. These students, all speaking a common language, seemed to have similar stomachs, hearts, emotions and mental aberrations.

Then I became interested in the history of man and medical history. I learned very early that the great contributions to cultural and medical progress did not come from some one particular country nor were they all from the same race, religion or form of government: there were Chinese, East Indians, Assyrians, Babylonians, Persians, Arabs, Jews, Egyptians, Grecians, Italians, Frenchmen, Spaniards, Russians, Hungarians, Austrians, Scandinavians,

Hollanders, Englishmen, Scotchmen, Irishmen, Germans and even Americans. In my early childhood the earth was very large; provincialism, nationalism, racialism, and other forms of sectarianism might well have been expected; the earthly cultural circle was not complete. Today the earth is very small; the circle is complete; the East and West have met; indeed all peoples have met. We can no longer be provincial, nationalistic and sectarian; we must be international and humanitarian; we must remember that we are mixtures of different nationalities, that there are no insurmountable geographical boundaries, that all visible life is the product of collectivistic-individualism or individualistic-collectivism and not individualism alone or collectivism alone. We must not forget that stomachs, hearts, emotions and mental aberrations are the same regardless of differences of race, religion, nationality and language; we are very definitely economically and sociologically interdependent.

This International College is just another example of the great humanitarian, non-sectarian movements that will very probably evolve a saner and more naturalistic and logical civilization; its very definite objectives are: better human relations, continued humanitarian rather than sectarian education and encouragement for young physicians and surgeons, promotion of practical medicine and research, and the separation of the trivials from the fundamentals of life. Like all institutions it will meet many obstacles; it will have to contend with ignorance, jealousy, intolerance and fanaticism; it will, like all other organizations, make inferior and even bad selection of members. But as Thomas Carlyle said in substance: Our wheat may be mixed with rubbish; that does not matter; we may plant wheat and the rubbish; the earth grows the wheat; she is silent about the rest.

This organization is in competition with no other medical group; its effort is merely to raise and spread the highest standards of medical and surgical thought and practice throughout our shrinking world; it hopes to broaden the scope of the many great values that have been already incorporated in our numerous local legitimate professional groups. It is my sincere hope that you will become or remain broad-minded and

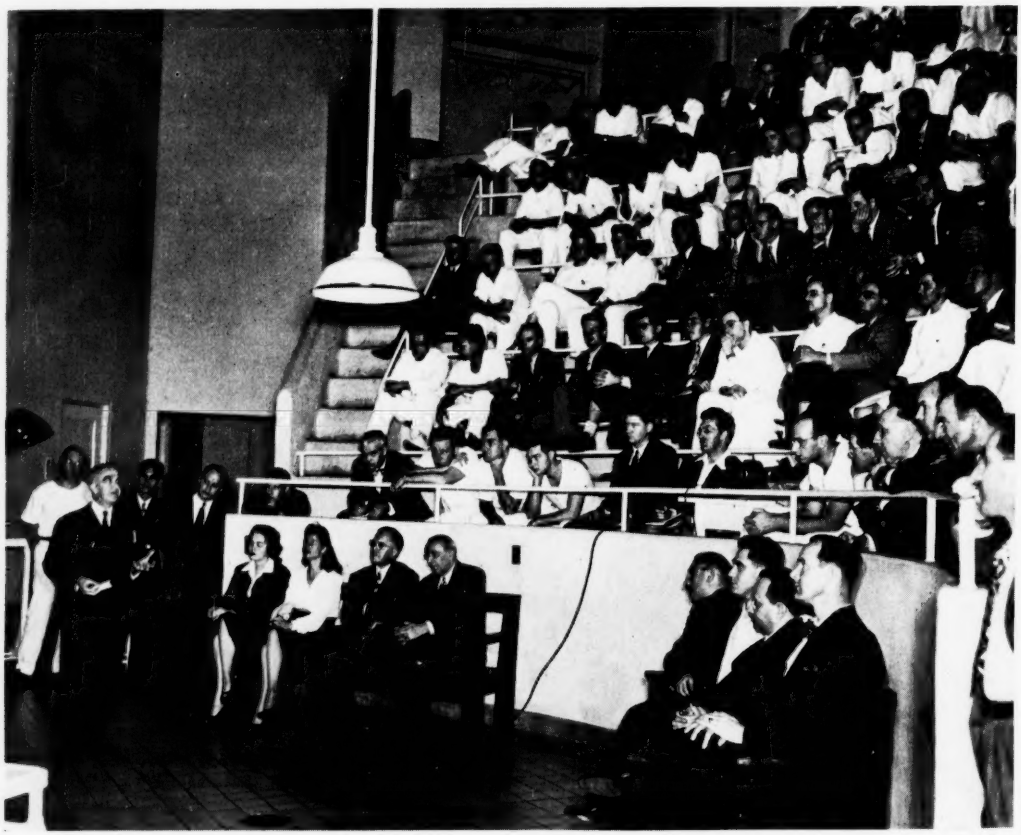

Fig. 6. Mr. Zachary Cope, London, delivering address at Cook County Hospital.

lend your ears and hearts to the good qualities of yourselves and others rather than magnify the bad qualities we are very apt to possess. Let this organization never become a mutual admiration society only for those who have already made their reputations and have finished all that might be expected of them.

In closing may I extend to you my sincere congratulations; you have a great work ahead of you; may I ask you to give your support to our officers who, I know, are doing the best they can for a worthy and absolutely necessary cause. I am in hopes that we may eventually evolve a system by which the best practical knowledge can be carried directly to all busy practitioners who rarely have the time to attend special and distant meetings.

Other guest speakers and delegates were the following:

Argentina
His Excellency, the Ambassador of Argentina to the United States, Prof. Dr. Oscar Ivanissevitch, of Buenos Aires and Washington
Prof. Dr. Felipe Carranza, Buenos Aires
Prof. Dr. Edmundo G. Murray, Buenos Aires

Brazil
Prof. Dr. August Sisson, Porto Alegre

Canada
Dr. Lyon H. Appleby, Vancouver

Czechoslovakia
Prof. Dr. Arnold Jirasek, Prague

Denmark
Dr. John Hertz, Copenhagen

Egypt
Prof. Dr. Jacob Bitschai, Alexandria

England
Mr. William Oliver Lodge, F.R.C.S., London
Mr. Zachary Cope, F.R.C.S., London
Mr. Leon Gillis, F.R.C.S., Roehampton

France
Prof. Dr. Raymond Darget, Bordeaux

Fig. 7. Cook County Hospital Surgical Clinic.

Hungary
Prof. Dr. Andrew Hedri, Budapest
Dr. Nandor Zinner, Budapest

India
Dr. R. N. Cooper, Bombay
Dr. M. G. Kini, Madras
Dr. P. C. Roy, Bombay

Ireland
Mr. Alex Spain, F.R.C.S., Dublin

Mexico
Prof. Dr. Manuel A. Manzanilla, Mexico City
Prof. Dr. Francisco Fonseca, Mexico City

Norway
Prof. Dr. Leif Efskind, Oslo

Philippines
Dr. Sixto Orosa, Manila
Dr. Jose Fores, Manila
Dr. Cristino Lazatin, Manila

Puerto Rico
Dr. Fernando Asencio, Bayamon

Sweden
Prof. Dr. John Cedermark, Stockholm

Spain
Prof. Dr. Ignacio Barraquer, Barcelona

Turkey
Dr. Feyiaz Berkay, Istanbul

Dr. Louis L. Mann of Sinai Temple concluded the colorful ceremony with a Benediction.

* * * * *

Note: Names inadvertently omitted from the Convocation List or from the List of Contributors should be called to our attention and proper correction will be made.—THE EDITOR.

SIGNS OF THE TIMES

The *Daily Times* of Chicago (Oct. 15, 1947) carried an article by Marshall Field III, in which he listed five major objectives for the United States. Among them, the second, in fact, was the matter of health insurance. He stated:

"I mean a program designed to keep Americans healthy, not merely to provide hospitalization after they get sick.

"Our quarrel should not be with so-called organized medicine and it is not essential that we disturb existing patterns of medical service. Our basic quarrel is with the lack of medical facilities for people who need them."

Radio Broadcast Given by DR. PRESTON BRADLEY October 9, 1947

Good evening, ladies and gentlemen: Wednesday of last week I had an experience about which I have been thinking considerably. Every listener in the Chicago area and probably in other parts of the country as well, is familiar with the fact that Chicago has just had a meeting of the International College of Surgeons. It has attracted a great deal of local interest and our Chicago press has been very magnanimous in reporting the addresses and the proceedings of this important international meeting. On Wednesday evening the annual banquet was held. Although I am not a physician nor a surgeon, I was invited by the committee to preside at this dinner. It was an experience I shall never forget, and some of my reactions to it I am passing out to you this evening. Here is an International College of Surgeons, founded some years ago under the inspiration and leadership of Dr. Max Thorek, well known in the field of surgery. At this dinner were more than 2,000 people from many countries of the world. I met and talked with surgeons from London, Paris, Mexico City, Brazil, Norway, Sweden, Denmark, Czechoslovakia, India, China and the Philippine Islands. Here were all of these people, including several distinguished negro surgeons, spending days together, discussing their common problems, the advancements which have been made in various parts of the world in their profession, and many other matters of vital importance. Quite apart from the technical problems before this international congress, and of which I know nothing, I was impressed with the example which they set before us and the world. Here was a group of men of every race and creed and almost every nationality on this earth, meeting together in amity and in a cooperative manner. I had a long talk with a distinguished professor from Praha, in Czechoslovakia, and also a head of a great hospital in Bombay, India. I thought of the contrast between this group of men, all of whom were devoted to the development and advancement of their pro-

fessional interests, with some of the other congresses and meetings in which discord, misunderstanding, checks, vetoes, interferences usually predominate, even though there is a common objective and purpose. A good comparison is the United Nations. When I attended the beginning of the United Nations in San Francisco, and later at Hunter College, every speaker without exception stated that the ideal was for peace and world understanding. That was true then, it is true now. Almost every speech which I have heard or read coming out of Lake Success has had in it somewhere 'the primary consideration before us is the peace of the world," and that seems to be about as far as they get—the statement of a common desire for world peace. It occurred to me as I sat looking into the faces of these hundreds of fine and distinguished personalities, with all of their backgrounds, religious and racial: "Here is a group of individuals who do not permit their antagonisms or prejudices to interfere with the progressive development of their profession and their common interests." I thought all during the evening: "What motivation is there here that is lacking in so many other assemblies of people, with such a wide diversity of background, race and religion?" The only people on the program who were not surgeons were the Governor of this State, Governor Green, and Rear-Admiral L. Cary Jones, who is the Commandant of the Ninth Naval District, and myself. I am aware, and so are you, that when a member of the United States military speaks, we usually anticipate that he will present the old stock arguments of military strength being the basis for world peace, but there was an address given at that dinner by Rear Admiral L. Cary Jones, who, as I said, is now the Commandant of the Ninth Naval District, which comprises I believe thirteen or fourteen states here in the Middle West, which was as clear, concise and effective an address as I have ever heard, not only from a distinguished member of our military, but from anyone. I thought as I listened to Admiral Jones' presentation, "What a pity, even more than a pity—what a tragedy that his address was not being heard by every man and woman in these United States." I hope the International College of Surgeons will make it available through some form of distribution, for I consider it an important utterance, coming from one who speaks authoritatively with first-hand information as a participant in wars, and with a grave responsibility upon him in peacetime. Read Admiral Jones was one of the few and perhaps the only officer on the deck of the ship on that fateful day at Pearl Harbor, who also stood on the deck of the "Missouri" when the surrender of Japan took place. Quietly and impressively Rear Admiral Jones said in his address on this occasion to which I have referred: "Why not adapt this feeling of brotherhood to relationships between our national and world leaders? Why not adapt the medical procedure for curing human ills—(diagnosis, treatment, rehabilitation, with new and improved methods resulting from never-ending research)—to restoring the health of a sick world? (I think we will all agree that the world is ill, and very seriously so.)" And looking into the faces of those surgeons from all over the world, he said, "What would be your diagnosis, gentlemen? What, specifically, are the malignancies that threaten world peace, and what surgery would you employ? What virus invades the bloodstream of international goodwill, and what serum would you inject? . . . The end of World War II has not brought the peace and security that we had hoped for. Although the spread of Nazi and Fascist doctrines has been arrested by force of arms, the cancer of leftist totalitarianism, no longer benign, is threatening the very nerve centers of democracy. Many nations, under economic and political pressure, have sacrificed individual liberties and have resorted to state control in an attempt to find relief. . . . Reviewed chronologically, man has become increasingly competent in eradicating his fellow beings: The Greeks, Romans and Spartans were able to kill one man with a spear or an arrow; Napoleon, with a single cannon ball, was able to kill twelve; Germany's Big Bertha of World War I eliminated 84 at one firing, but an improvement in World War II, the V-2 Bomb, raised the ante to approximately 160, and then one atom bomb was dropped on Hiroshima, in the summer of 1945, and the score was 134,000 killed and wounded. What has happened to the dignity of man? Must he, like a jungle animal, resort to refuge in caves and to eternal vigilance, to insure his liberty?" All of which reminded me of Prof. Einstein's reply, when a young student at Princeton asked him what would be the weapons in World War III. Einstein replied: "I do not know what will be the weapons in World War III, but I do know what they will be in World War IV. They will be stone spears." If more of us do not reflect the same attitudes which I found among the surgeons of the world, in treating the ills of the world, I am afraid history will affirm Einstein's tragic prophecy.

Thomas Curtis Clark, in his poem "New Vistas," lifts our thoughts into high places:

"A day will come, in not undreamed of years,
When men shall wake with singing on their lips.
Their toil will bloom with hope, uncursed by fears;

They will not labor to the tune of whips;
They will not close their days as battered ships!
Then all shall be as gods, Olympus-born,
And joy shall grace each heart. As beauty drips
From summer dawns, so from the fields of corn
Shall gladness be shed forth on all the sons of morn."

CHAPTER NEWS

The *Finnish Chapter* of the International College of Surgeons held a most successful meeting on Sept. 30, 1947. Prof. Juuso Kivimäki lectured on the surgical treatment of jaw deformities, and Dr. K. E. Kallio gave a lecture on Arthrogryposis multiplex congenita.

The *Mexican Chapter* enlarged its membership by the addition as Fellow of Dr. Feliciano Palomino Dena, as Members Dr. Teodulo Agundis, Jr., Dr. Enrique Graue, Jr., and Dr. Daniel Silva, and as Associate Members Dr. Lucio Mayoral Hernandez and Dr. Ignacio Mijares L. Dr. Mario Vergara Soto was promoted to Fellow from Member, and Dr. Mario H. Chavira from Associate Member to Member.

GENERAL NEWS

Dr. Enrique St. Loup, member of the International Board of Trustees and President of the Bolivian Chapter, has been appointed Professor of History of Medicine at the University Mayor of San Andres of La Pax, where he held the chair of Clinical Surgery for some time.

Dr. Felipe F. Carranza, member of the International Board of Trustees and President of the International Committee on Cancer for the College, is lecturing on this subject at the School of Medicine of Mexico.

Dr. Juan Martin Allende, F.I.C.S. (Hon.), formerly Professor of Clinical Surgery of the National University of Cordoba, Argentina, is lecturing on his subject at the School of Medicine of Mexico.

On Sept. 7, *the IV. Interamerican Congress of Surgery* (Association of Interamerican Congresses of Surgery) and the IV. Brazilian and American Congress of Surgery (Brazilian College of Surgeons) took place in Rio de Janeiro. Both assemblies were under the presidency of Prof. Dr. Ugo Pinheiro Guimaraes, who is President of the Brazilian College of Surgeons and Fellow of the Brazilian Chapter of the International College of Surgeons. Among others, Dr. Dagmar Chaves, F.I.C.S., read a paper on "Allergy in Surgery."

Tribute to

DR. HYMAN ISAAC GOLDSTEIN

on His Sixtieth Birthday, November 2, 1947

Dr. Hyman I. Goldstein has distinguished himself as a clinician, investigator, lecturer, writer and medical historian. He has been practising in Camden, N. J., since 1909, and made numerous original contributions to medical literature, publishing about 125 articles over a period of 34 years.

Born in Baltimore in 1887, he graduated in medicine from the University of Pennsylvania, has been a member of many medical societies here and abroad and has lectured chiefly on medicohistorical subjects in this country and in Europe.

Dr. Goldstein's investigations took in a wide range of subjects, particularly that of malignant neoplasms of the abdominal organs and the heart. His descriptions of clinical entities and signs came to be identified with his name: *Goldstein's disease, Goldstein's toe sign, Goldstein's hemoptysis, Goldstein's hematemesis,* etc., and his studies of other subjects have established him as a scholar, historian and investigator.

He was awarded a Bronze Certificate for his exhibit at the Ninth International Congress in Budapest. He was elected President of the Northern Medical Association of Philadelphia (founded in 1864) and Chairman of the Section of Gastro-Enterology of the Medical Society of New Jersey.

Let us join in the most cordial good wishes to him, and in saying: Goldstein ad multos annos.

S. A. KAGAN

Sixth International Assembly of the

INTERNATIONAL COLLEGE OF SURGEONS

Rome, May 1948

Synopsis of Escorted Pre-Congress Tours

Sailing from New York April 24th by Cunard-White Star Liner *Mauretania* due to arrive Southampton and Cherbourg May 1st

18 Days in Europe

Tour S–101 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city; trip to Versailles and Malmaison)—Avignon (tour of Papal Palace and old walls)—Nice (Riviera drive to Monte Carlo)—Genoa Viareggio—Rome.

Tour S–102 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Amsterdam (tour of city; excursion to Volendam and Isle of Marken)—Brussels (tour of city)—Paris (tour of city; trip to Versailles and Malmaison)—Geneva (tour of city)—Lausanne (lake steamer to Montreux)—Stresa (on Lake Maggiore)—Milan—Rome.

Tour S–103 Cherbourg-Paris (tour of city; trip to Versailles and Malmaison)—Avignon (tour of Papal Palace and old walls)—Nice (Riviera, drive to Monte Carlo)—Genoa—Milan—Venice (tour of city)—Florence (tour of city)—Rome.

Tour S–104 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city; trip to Versailles and Malmaison)—Geneva (tour of city)—Berne (tour of city)—Interlaken (by mountain railway trip to Scheidegg)—Lucerne (by lake steamer and railway to Mt. Rigi)—Lugano—Milan (tour of city)—Florence—Rome.

* * * * * *

Sailing from New York April 29th by Cunard-White Star Liner *Queen Mary,* due to arrive Southampton May 4th

15 Days in Europe

Tour S–201 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city; trip to Versailles and Malmaison)—Berne (tour of city)—Interlaken (mountain railway trip to Scheidegg)—Montreux (visit the Castle of Chillon)—Stresa (on Lake Maggiore)—Rome.

Tour S–202 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city; trip to Versailles and Malmaison)—Avignon (tour of Papal Palace and old walls)—Nice (Riviera drive to Monte Carlo)—Genoa—Viareggio—Rome.

Tour S–203 Southampton-Paris (tour of city; trip to Versailles and Malmaison)—Berne (tour of city)—Lucerne (by lake steamer and railway to Mt. Rigi)—Lugano—Milan (tour of city)—Florence—Assisi (in The Hill Towns)—Rome.

Tour S–204 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Amsterdam (tour of city; excursion to Volendam and Isle of Marken)—Brussels (tour of city)—Luxembourg (tour of city and environs)—Basle—Lucerne (by lake steamer and railway to Mt. Rigi)—Como (in the Italian Lakes)—Florence (tour of city)—Rome.

* * * * * *

Sailing from New York May 7th by Cunard-White Star Liner *Queen Elizabeth,* due to arrive Southampton May 12th

7 Days in Europe

Tour S–301 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city)—Rome. (Note: The Paris-Rome travel will be by through express train.)

Tour S–302 Southampton-Paris (tour of city; trip to Versailles and Malmaison)—Rome. (Note: The Paris-Rome

travel will be by through express train.)

Tour S–303 Southampton-Paris (tour of city)—Nice (Riviera drive to Monte Carlo)—Genoa—Viareggio—Rome.

Tour S–304 Southampton-London (tour of city; trip to Windsor Castle, Eton, Hampton Court Palace)—Paris (tour of city)—Rome. (Note: This tour will fly from London to Paris and from Paris to Rome.)

Tour S–305 Southampton-Paris (tour of city; trip to Versailles and Malmaison)—Rome. (Note: This tour will fly from Paris to Rome.)

NOTE: Arrangements for the above tours commence at Channel Port of arrival and terminate on arrival in Rome.

SYNOPSIS OF ESCORTED POST-CONGRESS TOURS

The following Extensions present an opportunity to visit places not included on the outward journey and can be taken in connection with any Pre-Congress Tour. Arrangements commence on completion of the Congress in Turin on May 30th and terminate at the Channel Port to connect with Cunard-White Star Liners as indicated.

Sailing from Southampton June 2nd in the *Queen Elizabeth* due New York June 7th

4 Days in Europe

Tour SA Turin-Paris-London-Southampton (Note: The Turin-Paris travel will be by through express train.)

* * * * * *

Sailing from Europe June 9th in the *Queen Mary* due New York June 14th or in the *Mauretania* June 10th due New York June 16th

Tour SB Turin-Milan (tour of city)—Stresa (on Lake Maggiore)—Interlaken (mountain railway trip to Scheidegg)—Lucerne (by lake steamer and railway to Mt. Rigi)—Paris-London-Southampton. (Note: option available to embark at Cherbourg instead of Southampton).

Tour SC Turin-Nice (Riviera drive to Monte Carlo)—Avignon (tour of Papal Palace and old walls)—Paris (tour of city; trip to Versailles and Malmaison)—Cherbourg.

Tour SD Turin-Nice (Riviera drive to Monte Carlo)—Avignon (tour of Papal Palace and old walls)—Paris (tour of city)—Brussels (tour of city)—Amsterdam (tour of city; excursion to Volendam and Isle of Marken)—London—Southampton.

Tour SE Turin-Milan (tour of city)—Lugano—Lucerne (by lake steamer and railway to Mt. Rigi)—Interlaken (mountain railway trip to Scheidegg)—Berne (tour of city)—Geneva (tour of city)—Paris—Cherbourg.

Tour SF Turin-Paris (tour of city; trip to Versailles and Malmaison)—Brussels (tour of city)—Amsterdam (tour of city; excursion to Volendam and Isle of Marken)—London (tour of city; excursion to Shakespeare Country)—Southampton. (Note: The Turin-Paris travel will be by through express train.)

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Arrangements can be made by individuals or groups to suit their special requirements or to extend the Post-Congress Tours and afford an opportunity of visiting centers of Medical or Scenic interest in the British Isles or in the Scandinavian Countries. Details of homeward sailings or plane departures to connect with such extended tours and suggested itineraries will be furnished on application.

Erratum:

Through a printer's error on p. 424 of the July–August issue of the JOURNAL in the article by Dr. B. Hadjistamoff, Sofia, was placed in Turkey. The line should have read, of course, Sofia, Bulgaria.

In Memoriam

DR. WILLIAM SEAMAN BAINBRIDGE

A.M., M.D., SC.D., LL.D., F.I.C.S., F.R.I.P.H.H.

New York City

1870–1947

The shock of the sudden death of our friend and colleague, Dr. William Bainbridge, is still as acute as when we first reported it in the previous issue of the JOURNAL. Dr. Bainbridge was associated with the I. C. S. from 1938 to 1946, during which time he served as International Treasurer, as a member of the Board of Trustees, Chairman of the Board of Trustees of the United States Chapter, and member of the Credentials Committee. His unusual personality and vivid interest in all pertaining to the College as well as to science and medicine in general are still vividly before us.

Dr. Bainbridge was born in Providence, R. I., as the only son of the Rev. William F. Bainbridge, minister and archeologist, and Lucy Seaman Bainbridge, missionary leader. He graduated as senior

captain of cadets from Lake Mohegan, N. Y., Military Academy, and in 1893 received his medical degree from Columbia University College of Physicians and Surgeons. His postgraduate studies took him to Europe for several years. On his return he became Professor of Operative Gynecology of the New York Postgraduate Hospital and School; Professor of Surgery at New York Polyclinic Medical School and Hospital, and Surgeon and Secretary of Research Committee of the New York Skin and Cancer Hospital. He was also consulting surgeon to the Manhattan State Hospital, the Tarrytown Hospital, Booth Memorial Hospital, Public Health Hospitals in New York district, and of other hospitals. Dr. Bainbridge was honorary professor of the medical faculty of the University of Santo Domingo and of the Military Medical School of Poland; he was an honorary member of the National Academy of Mexico, Life Fellow of the Royal Society of Medicine, England; honorary Fellow of the Royal Academy of Medicine of Rome, and of the French Society of Gynecology, Warsaw Surgical Society, Italian League for Control of Cancer, Society of Surgeons of Poland, Society of Surgeons of Paris and of many South American and other European medical and surgical societies. He received decorations from France, Belgium, Italy, Poland, Finland, Czechoslovakia, Lithuania, Rumania, Estonia, Latvia, Hungary, Spain, Yugoslavia, Luxembourg, Mexico, Venezuela, Peru, the United States, and the Salvation Army. His foreign confreres called him the "medical ambassador from the United States."

He was President of the American Academy of Physical Medicine, and honorary President of the First International Congress for the Study of Tumors at Heidelberg. He had been President of the International Medical Club of the Association of Military Surgeons of the United States, and Fellow and former Vice President of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons.

He was an early pioneer in this country in the use of spinal anesthesia, introduced intraperitoneal insufflation of oxygen in the treatment of tuberculous peritonitis, contributed articles on ovarian transplantation, and developed a method of ligation and lymphatic block for the "starvation" of advanced pelvic and abdominal malignancy, as well as a form of mastectomy. His book, "The Cancer Problem," was translated into French, Italian, Spanish, Polish and Arabic, and parts appeared in sixty-eight languages. He invented a number of surgical instruments and an improved operating table.

In 1913 he aided in forming the Medical Reserve of the United States Navy, in which he served as captain and medical director; was operating surgeon on the U. S. S. George Washington and saw service abroad during World War I. After the war he assisted in organizing the Military Order of Foreign Wars and, in association with Col. Jules Voncken, of the Belgian Army, created and organized the International Congress of Military Medicine and Pharmacy, which held its first meeting in Brussels in 1921. Dr. Bainbridge made many trips to Europe, during one of which he gave emergency medical care to Admiral Byrd and members of the crew of the aircraft America, which came down at Vers sur Mer, France. On entrance of the United States into World War II he was sent on a Government mission to all the republics south of the Rio Grande.

A member of a number of hereditary societies, such as the Sons of the Revolution, Society of the Cincinnati, the Society of the Colonial Wars, Hugenot Society, St. Andrew's Society, and numerous

other patriotic and military organizations, he was formerly Commander General of the Military Orders of Foreign Wars, President of the Rotary Club of New York, and Commander of the Tiger Post, American Legion. He also belonged to the Army and Navy Club, Author's Club, Society of the Legion of Honor, Union League, Pilgrims of the United States and numerous other clubs; and was a director of the Equitable Life Assurance Society of New York, and of the American Foundation. He had received honorary degrees from six institutions of learning, the last from the ancient University of San Marcos, Peru.

In appearance Dr. Bainbridge was a handsome man, and his mind was ever active, penetrating and vivid. He was the soul of courtesy and hospitality. Apart from his devotion to his family and his profession, his chief interest and enjoyment were travel and world affairs.

Dr. Bainbridge is survived by his widow, the former June Wheeler, whom he married in 1911, two sons, a daughter and five grandchildren.

JOHAN CEDERMARK

M.D., F.I.C.S.

1898–1947

Stockholm, Sweden

The dreadful tragedy of October 24, which took 52 lives in the crash of a giant DC 6 aerial transport plane at Bryce Canyon, robbed Swedish surgery and international science of one of its most promising members. Dr. Johan Cedermark died in that crash. Dr. Cedermark was young, but his brief career had been brilliant and promising. He was Assistant Professor of Surgery at the Medical School of Karolinska Sjukhuset and a distinguished lecturer in Surgery at the Royal Karostine Institute of Stockholm.

Many of our readers undoubtedly heard his presentation at the recent Twelfth Assembly of the United States Chapter of the International College of Surgeons in Chicago. He spoke on Neurinomas in the Gastro-Intestinal Tract, and his clear and lucid approach to this problem of surgery will surely be remembered. Personally Dr. Cedermark was exceedingly charming and made many friends at the Assembly, offering the type of friendship that would become increasingly vital and valuable through the years to come. Johan Cedermark was an honor to his country and a tribute to the excellency of surgical training existing at the present in Sweden.

The members of the International College of Surgeons extend their deepest sympathy to his family and his numerous friends.

The Rome Assembly

The time for the Rome Assembly is rapidly approaching. (May 16 to 24, 1948.)

We are informed by official sources that the unrest in France and Italy has been dissipated, and that in fact, the *unpleasantness has been grossly exaggerated by the press.* Assuring notes from His Excellency, the Italian Ambassador to the United States, from Profs. Rafaele Paolucci and A. Mario Dogliotti, Presidents of the Assembly, and Prof. Giuseppe Bendandi, General Secretary of the Rome meeting, should entirely eradicate all apprehesion on that score. Travel will be de luxe, accommodations superb and the table ample.

A galaxy of speakers on scientific subjects will compose the program, which is being arranged by the General Committee in Rome. The Program Committee for the United States and Canada consists of:

Dr. Herbert Acuff
402 Medical Arts Building
Knoxville, Tennessee

Dr. Henry W. Meyerding
Mayo Clinic
Rochester, Minnesota

Dr. William Carpenter MacCarty, Sr.
Mayo Clinic
Rochester, Minnesota

Dr. Karl A. Meyer
30 N. Michigan Avenue
Chicago, Illinois

Dr. Lyon H. Appleby
925 W. Georgia Street
Vancouver, B. C., Canada

Those desiring to present papers please communicate with Dr. A. A. Berg, President of the International College of Surgeons, any member of the above Committee, or the General Secretary.

Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, will read a paper on "International Aspects of Medical Science." It is expected that Dr. E. L. Henderson, President of the Board of Trustees of the American Medical Association, who will at that time be in Paris in the interests of the World Medical Association, will be invited to address the Assembly. Profs. Manuel A. Manzanilla and Francisco Grana are organizing the Latin American delegations. News has been received from Hamilton Bailey in London that a fine representation from the British Isles is assured. Prof. Felix Mandl of Vienna writes that among the speakers will be Profs. Finsterer, Demel, and himself. The completed program from the General Secretary in Rome has not yet been received. It will be published in the next issue of the JOURNAL.

All previous Assemblies of the International College of Surgeons have been characterized by brilliant scientific papers, a fine democratic spirit among the fellows, and the high quality of the various activities. Members of the United States Chapter and their families are urged to take advantage of this splendid opportunity for a vacation and meeting with kindred spirits.

Sailings and air transportation and personally conducted tours are being arranged through our *Official Travel Representatives,*

All Nations Travel Bureau
38 S. Dearborn Street
Chicago 3, Illinois

The Cunard Line is holding 600 accommodations for us. Because of the heavy demand for steamship travel, it is imperative that you make your reservations NOW. *Late comers cannot possibly be booked on the great Queens Mary and Elizabeth.*

ACKNOWLEDGMENTS

The following publications have been received as exchanges by the editorial office of the *Journal* during the past year.

Argentina

Anales de Cirugía (Rosario)
Anales del Instituto de Medicina Regional (Tucumán)
Archivos Americanos de Medicina (Buenos Aires)
Archivos Argentinos de Tisiología (Buenos Aires)
Boletín del Instituto de Clínica Quirúrgica (Buenos Aires)
Boletines de la Sociedad de Cirugía Rosario (Rosario)
Cuadernos de Mineralogía y Geología (Tucamán)
La Revista de Medicina y Ciencias Afines (Buenos Aires)
Revista Argentina de Urologia (Buenos Aires)
Revista de la Sanidad Militar (Buenos Aires)
Revista de Medicina Cancerológica (Rosario)
Revista Médico—Quirúrgica de Patología Femenina (Buenos Aires)
Revista Oto-Neuro-Oftalmológica y de Cirugía Neurológica Sud-Americana (Buenos Aires)

Australia

The Australian Journal of Experimental Biology and Medical Science (Adelaide)
The Australian and New Zealand Journal of Surgery (Sydney)

Belgium

Acta Gastro-Enterologica Belgica (Brussels)
Archiva Medica Belgica (Brussels)
Bulletin International des Services de Santé des Armées de Terre, de Mer et de l'Air (Liege)
Revue Belge des Science Medicales (Louvaine)

Bolivia

Gaceto Médico-Quirúrgica de Bolivia (La Paz)
Prensa Médica (La Paz)

Brazil

Anais Brazilieros de Ginecologia (Rio de Janeiro)
Anais Paulistas de Medicina e Cirugia (São Paulo)
Bahia Medica (Bahia)
Boletim do Instituto Vital Brasil (Niterói)
Boletim do Sanatorio São Lucas (São Paulo)
Brasil Médico (Rio de Janeiro)
Brasil Médico-Cirúrgico (Rio de Janeiro)
Ciéncia Médica (Rio de Janeiro)
Clínica Tisiológica (Rio de Janeiro)
Gazeta Clínica (São Paulo)
Ginecología (Recife-Pernambuco)
Jornal dos Clínicos (Rio de Janeiro)
O Hospital (Rio de Janeiro)
Revista Brasiliera de Tuberculose (Rio de Janeiro)
Revista Clínica de São Paulo (São Paulo)
Revista de Ginecología e d'Obstetricía (Rio de Janeiro)
Revista de Obstetricía e Ginecología de São Paulo (São Paulo)
Revista Médico-Cirúrgica do Brasil (Rio de Janeiro)
Revista Médica Municipal (Rio de Janeiro)

Canada

Bulletin of the Vancouver Medical Association (Vancouver)
The Manitoba Medical Review (Winnipeg)
University of Western Ontario Medical Journal (London, Ontario)

China

The Chinese Medical Journal (Shanghai)

Chile

Archivos del Hospital Clinico de Ninos (Santiago de Chile)
Hospital de Viña del Mar (Viña del Mar)
Archivos de la Sociedad de Cirujanos de Hospital (Santiago de Chile)
Revista Chilena de Higiene y Medicina Preventiva (Santiago de Chile)
Revista de Medicina (Valparaíso)
Instituto de Radium (Bogotá)
Medicina y Cirugia (Bogotá)
Revista de Cruz Roja Colombiana (Bogotá)

Costa Rica

Revista Médica de Costa Rica (San José)

Cuba

Anales de la Academia de Ciencias Médicas, Físicas y Naturales de la Habana (Habana)
Archivos Cubanos de Cancerologia (Habana)
Boletín de la Liga Contra el Cancer (Edición Cientifica) (Habana)
Boletin de la Sección de Sanidad de la Policía Nacional (Habana)
Revista Médica Cubana (Habana)
Sanidad y Beneficencia Municipal (Habana)
Vida Nueva (Habana)
Villaclara Médica (Santa Clara)

Ecuador

Anales de la Sociedad Médico-Quirúrgica del Guayas (Guayaquil)

Egypt

The Journal of the Royal Egyptian Medical Association (Cairo)

England

Abstracts of World Surgery, Obstetrics & Gynaecology (London)
Proceedings of the Royal Society of Medicine (London)

France

Bordeaux Chirurgical (Bordeaux)
Journal de Chirurgie (Paris)
Lyon Chirurgical (Lyon)

Guatemala

La Juventud Médica (Guatemala City)
Universidad de San Carlos (Guatemala City)

Honduras

Revista Médica Hondureña—Organo de la Asociación Médica Hondureña (Honduras)

Italy

Guida dei Sanitari di Napoli e Provincia (Naples)
Guida Sanitoria dell Puglie
Guida Sanitoria di Roma e Privincia (Rome)
Guida Sanitoria della Sardegna
Rassegna Internazionale di Clinica e Terapia, Napoli (Naples)
Rassegna di Neuropsichiatria (Salerno)

Mexico

Archivos de Neurología y Psiquitria de México (México, D. F.)
Boletín del Hospital Oftalmológico de Nuestra Señora de la Luz (México, D. F.)
Boletín Médico del Hospital Infantil
Boletín del Sanatorio "Dr. Nicandro L. Melo" (Veracruz)
Boletin de la Sociedad Mutualista Médico-Farmacéutica de Quadalajara (Quadalajara, Jal., Mexico)
Cirugía y Cirujanos (México, D. F.)
Gaceta Médica (Villahermosa)
Información Sobre Enfermedades Venéreas (México, D. F.)
La Prensa Médica Mexicana (México, D. F.)
Medicina (México, D. F.)
Monterrey Médico (Monterrey)
Nayarit Médico (México, D. F.)
Notas Quirurgicas del Sanatorio Deschamps (Veracruz)
Revista de Cirurgía (México, D. F.)
Revista de la Universidad Puebla (Puebla)
Revista Médica Pasteur (México, D. F.)
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Erratum:

Through a regrettable inadvertance the article by Prof. Dr. Felipe F. Carranza, Buenos Aires, Argentina, appearing on page 341 of the May–June, 1947, issue of the JOURNAL, entitled "Tratamiento Quirurgico del Cáncer de Recto", was erroneously accredited to Dr. Harry E. Bacon of Philadelphia. Proper correction has been made in the Index in this Volume.—The Editor.

NOTICE

The Executive Board of the American Medical Association has unanimously voted to list the Fellows of the International College of Surgeons in the forthcoming directory of the American Medical Association.

Fellows please note this qualification on your card to be sent to the American Medical Association Directory.

THE JOURNAL OF THE INTERNATIONAL COLLEGE OF SURGEONS

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